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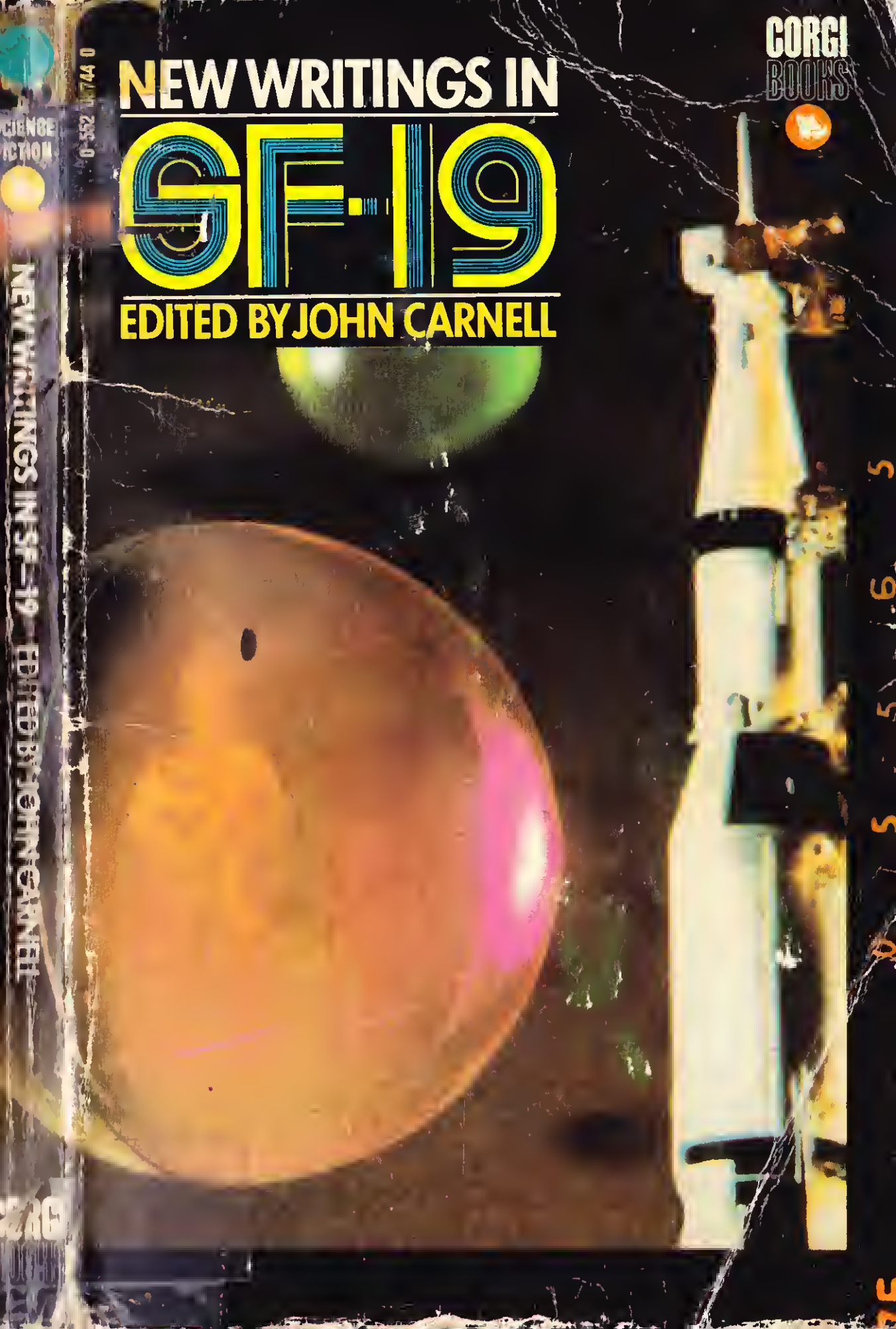
NEW WRITINGS IN SF-19

EDITED BY JOHN CARNELL



CORGI BOOKS

NEW WRITINGS IN SF-19 EDITED BY JOHN CARNELL

NEW WRITINGS IN SF–19

A tower standing in a poisoned sea—and inside—a ferment of exploding population . . .

A starship—with a strangely numbered deep-freeze crew . . .

The Luger was an antique—a relic from the 20th Century—so why did it make him want to kill . . . ?

Aliens—on the ice-caps of the earth—waiting, to subdue and colonise . . .

NEW WRITINGS IN SF–19

Seven stories of the future—edited by John Carnell

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John Carnell

New Writings in SF–19

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To
JAMES A. LOVELL JR
FRED HAISE
JOHN SWIGERT
and the entire Apollo 13 staff
for the
FIRST GREAT SPACE RESCUE
April 11 to 17 1970

FOREWORD

by

JOHN CARNELL

A MINOR disadvantage in producing volumes of *New Writings In S-F* is that it is impossible to include Forewords on topical subjects. Because of the production schedules, the story contents are selected and edited almost a year before publication at which time the Foreword is usually included. On rare occasions, such as now, a late introductory piece can be included at proof-reading time, but this still excludes the topicality a magazine editor can obtain where a monthly publishing schedule applies.

It is therefore only in retrospect that I can write about Man's great technological achievement in reaching the Moon in person by way of the Apollo flights—as opposed to the Russian unmanned landings, magnificent though their successes have been. For myself, the culmination of a life time of interest in the possibilities of space travel both actual and fictional, came with the Apollo 8 moon orbital voyage in December 1968 and to that end the fifteenth volume in this series was dedicated to Col. Frank Borman, Capt. James Lovell and Lt.-Col. William Anders, insignificant though that tribute may seem in the light of subsequent world acclaim. Let me record, too, that despite their tremendous post-voyage programme, each personally acknowledged that dedication.

From that pioneer voyage came the one utterly fantastic photograph I had always hoped to see—the Earth as seen from the Moon! Here was the visual proof that interplanetary travel was no longer in the realm of the dreamers —and a fitting tribute to all those writers from Lucian of Samosata in the second century A.D. to our own twentieth

century contributors who ever looked upon the face of the Moon and wrote about it.

The second great space adventure—and one which held the attention of the entire world—was the fated Apollo 13 voyage in April 1970, and this volume is dedicated to every individual in any way connected with that epic rescue. Ironically enough, James Lovell was the commander of 13 and destined not to walk on the Moon's surface despite being one of the first men to look at it from less than two hundred miles. Perhaps he may yet have the opportunity in one of the few remaining Apollo missions; as Alan Shepard had in Apollo 14, a signal honour to America's first man in space, back in 1961.

You might expect that the first moon walk in July 1969 by Neil Armstrong and Edwin Aldrin (Apollo 11) would be *the* most exciting moment for this particular science fictionist but strangely enough it did not contain any of the wonderment surrounding the first flight round the Moon. Exciting, yes, but only to be expected. Getting there was the greatest achievement. After that everything was merely logical progression.

Regrettably, too, since the conquest of moon flight, the usual rash of naive statements have been made on television and radio and in the press inferring that science fiction has now eliminated itself. Far from it. Science fiction writers abandoned the Moon and most of our own solar system many years ago; knowing that spaceflight would come within their own lifetime. We are far more concerned with the environmental problems, as many of the stories in these volumes show.

February 1971 JOHN CARNELL

THE MIND PRISON

by

MICHAEL G. CONEY

The 'closed environment' story is always a fascinating subject. Authors can find so many different ways of pointing out our own shortcomings . . .

THE MIND PRISON

ABOUT fifty miles east of the continental land mass an island thrusts its grey concrete towers from the ocean bed. This place is named by its pallid inhabitants Festive, a joyous name which belies its prison-like appearance of tall window-pocked walls rising abruptly from the sea and enclosing every square yard of the island.

It is said by the older inhabitants (who, like older inhabitants throughout the ages lay claim to superior knowledge) that the name Festive is a corruption of Fall-out Shelter Five; a peculiar description whose origins, like the original records of the colony, are lost in antiquity. An antiquity covers a very long time; many generations, many riots, a few small but destructive civil wars and a gradual but remorseless progression from underground caverns upwards through rock and shale to ground level. Then over the years the walls were built, ever higher, each chamber sealed from the poisonous outside air by men working in suits supplied with oxygen from the vast complex of machinery humming beneath the sea. Like primitive man before them, they had moved from a cave to a house.

As sunset brushed the towers with gold, the pigeons returned swiftly from the west, whirring across the sea in a small flock black-speckled like buckshot against the crimson sky. They rose to cross the outer walls and sped directly over the flat rooftop of the commune. Here and there they veered to avoid new works, new rooms jutting up from the plane of the general, communal roof; but once past they reverted to their original course, heading for the centre of the island city.

Abruptly they hovered, claws downthrust and tail-

feathers fanspread, then they dropped down a well some twenty feet square, descending deeply between dark walls . . .

An elderly man sat alone in his tiny room, knotted hands clasped placidly in his lap and eyes closed as he dreamed gently of the better times he never knew. The flutter of wings brushed his reverie aside and he rose stiffly, massaged his thighs briefly, then carefully climbed the small pile of rocks heaped in a corner incongruous like builder's rubble.

He clamped a rubber mask over his face and reached up, throwing a catch in the skylight. Then, in an instant, he pushed a small hatch open, the pigeons fluttered into the room, he slammed the hatch shut and scrambled to the floor. Only after a few minutes had passed did he remove the mask. He sniffed suspiciously, then his expression cleared and he regarded the birds.

They sat, eleven of them, in a neat row on a perch improvised from a length of galvanised pipe set on a rough table. The man examined each bird carefully and they, in turn, regarded him unblinking.

He sighed and knelt before a rectangular enamelled box beneath the table, gave the dials a cursory glance and switched the pigeons off.

They sat in the minute eating area of Section 13, bounded by featureless stone walls. The girl's face was anxious, pleading; she leant forward across the table, placing her hand over that of her companion. The room was quiet and she spoke softly.

'I can't wait for ever, David,' she was saying. 'I'm twenty-three. Principles are all very well; but we live by them, not on them. Don't you understand? I love you. I want us to get married. It's as simple as that.'

The young man's expression betrayed a mixture of longing and stubbornness; he grasped the girl's hand but stared at the table between them while he traced abstract patterns on the rough surface with his free hand.

'It's not as simple as that,' he said quietly. 'I've been a member of the Stabilisation Party since I was a kid. You're not a member. You wouldn't understand, Jillie . . . All right, I love you, too. But we can't get married.' He raised his fair head and stared at her in sudden exasperation. 'Can't you see what will happen to Festive, and to all of us, if the population continues to increase? I wonder the Council doesn't pass a law about it.'

'I just said let's get married, David,' said Jillie miserably. 'I didn't say anything about children.'

'But it follows, doesn't it? I've seen it before. You get two people living together and the next thing is they've got kids. God, if only these fools could see what's happening. If every woman in Festive farrowed in a given year, the population would triple itself by the end of that year, on an average of six babies to a litter. And that's conservative.'

'Jane Dunkerley had two babies last time. Just two . . . lovely little boys.' She could not keep the longing out of her voice.

David looked her straight in the eyes. 'So you *were* thinking about children,' he accused grimly. 'You women are all the same, sex-mad. You never want a man for himself; you just think of him as a mobile phallus. My God, I wonder what goes on between you and old Jeremiah sometimes. He must be all of seventy and yet you can't seem to stay away from him.'

She flushed angrily. 'Jeremiah's a nice old man. He's interesting and he knows a lot of things. And he's lonely in that little room with nothing but his pigeons to keep him company. I like him,' she finished, defensively.

David stood up with an air of finality. 'That may be so. But I tell you one thing he doesn't know. He won't be able to fly those pigeons very much longer.'

Jillie stood up too, abruptly. 'What do you mean?'

'He can't fly them if rooms are built above his place, can he?'

'You're going to build on top of Jeremiah?' She was aghast.

'Orders from the Local Housing Committee.' He relaxed slightly. 'I'm sorry, Jillie. I don't always enjoy my job, you know. But this makes sense. We've held off building above him for five years just because he's a character in the Sector and out of sentiment. Now the complex is all around and above him. It's dangerous. If you suit up and stand on the roof, everything's level and airtight except this square shaft three floors deep, down to Jeremiah. All it needs is a serious quake and the Atmosphere will get in. The whole set-up is unstable.'

'Couldn't you re-house him Up Top in one of the new rooms?'

'You know he'd never move. In any case, we try to put Youngers Up Top where the skylights are. They need the light to grow strong, just like the hydroponics Down Below. And the Health Committee say sunlight is better than artificial.' He shivered at the thought of the sun and its connotations of Outside and the Atmosphere.

Jillie was watching him and knew what he was thinking and felt a protective sympathy. 'Come on, love,' she said quietly. 'Let's take a walk Down Below and see the ponic fields.' Although she was free of the dread which gripped at least half the community, she guessed what it cost him each time he was obliged, in the course of his job as Housing Rep, to suit up and go Outside Up Top.

That night Jillie sat in Jeremiah's room and he spoke about the pigeons and the sky.

'I know there's no purpose in it,' he was saying, sitting in his chair tilted back so that he could see the skylight and, further above, the square of deep indigo speckled with stars. 'I just enjoy it, I guess; sending them out into the world, wondering what they see, watching them come back. It's almost as if I'm there with them, free in the sky, sailing high above the sea . . .' His ancient eyes dreaming, he gazed at the pane of glass.

'Have you ever lost any of them, Jeremiah?' she asked.

A shadow crossed his face. 'I used to have forty-eight,' he

replied sadly, 'years ago. I think they break down from time to time and fall into the sea.'

'Where did they come from, originally?'

He smiled. 'You ask a lot of questions, young Jillie. Well, I found them in a box, with a book, Down Below in one of the rooms which was burned out during the riot of '37. A strong metal box it was and it survived the fire . . .' He got up slowly and crossed the room to a door. 'I'll show you . . .'

When he reappeared Jillie jumped to her feet to assist; the box was large and heavy. They set it on the floor and Jeremiah threw back the lid. Inside were ranks of smaller boxes and a large compartment which, Jillie guessed, had contained the control box. The old man detached a booklet from clips inside the lid. 'Take a look at this,' he urged her eagerly, encouraged by her interest.

She read slowly, haltingly, aloud. 'Elec . . . Electronic Pigeon Set . . . An educational pastime for all ages. Complete with control box and forty-eight robot pigeons, perfect replicas of birds now found only in remote Antarctica. Fill the sky again with the sound of wings. Defy pollution like birds never did—each pigeon is guaranteed corrosion-proof. Send messages to your friends.'

She smiled. 'Is that why you fly them? You're hoping to get a message from Outside?'

He avoided her eyes. 'Of course not. Everybody knows there's nobody but ourselves. They have a thing at Council, a radio. It works something the same way as that control box.'

He paused, nervously drumming his fingers on the box as the room trembled to a minor quake, then continued: 'It received messages once, so they say. From all over the world. I don't know if we can believe it or not, but that's what they say . . .' His voice had quickened.

Jillie looked at him hard. 'You really believe in Outside, don't you, Jeremiah? You really think there's something besides Festive.'

'Doesn't make much sense if there isn't,' he muttered. He

replaced the booklet and closed the lid, but remained kneeling on the floor beside the box.

'David wouldn't like to hear you say that,' she observed. 'He's a Stabiliser. For him, nothing exists except Festive.'

'But we know there's other places,' protested the old man. 'They've still got some of the old maps. We know exactly where we are.'

'I don't mean that. David admits there are other places, but he says we should forget it because we can't do anything about them; we can never reach them because that means going into the Atmosphere Outside. To think about other places, he says, makes us dissatisfied.'

'And what do *you* say, Jillie?' asked Jeremiah shrewdly.

Jillie smiled innocently. 'I say let's think about the other places, and one day we might go there. Didn't you know? All women think the same. Maybe we're illogical.'

The old man regarded her carefully for a moment and she thought he was about to speak; but he shook his head silently and, awkwardly, began to rise from his kneeling position.

As Jillie moved to assist, his arm accidentally brushed across her breasts and she started back, shuddering, as her body was racked with mounting waves of desire. Her hands pressed to her stomach, she fought to control herself, to keep away from him, to subdue her lust with frantic random thoughts of hydroponics, pigeons, rocks, sea, sky, anything . . .

And as she stood, the features of the young man before her changed, lengthened and became wrinkled and the strong figure wilted and stooped.

Old Jeremiah watched her sadly. 'Not me, Jillie,' he said gently. 'Nor many other men these days, I guess. It's too bad . . .'

One week later David said to her: 'Jillie, I want you to come with me to see Jeremiah.' They were walking among the hydroponic fields deep Down Below. The air was humid and the banks of striplights in the ceiling were pressing hot

upon her head, causing the sweat to trickle down her face and body. She looked away so that he would not see her expression. She had been avoiding Jeremiah all week, ashamed of herself.

'Why?' she asked.

A black-shirted workman moved near, alternately raking and spraying the fronds. He glanced up and, upon seeing Jillie, his lined, pallid face gaped in a toothless grin. As if by accident he trod on his hose and, as his hand jerked with the sudden tension, a jet of warm water sprayed her dress and legs.

David chose to ignore the incident; women went Down Below at their own risk. 'I've got to break the news to him about the building programme,' he explained. 'The Council ratified the Committee's decision last night. It's no good being sentimental about it; we've got to build on top of Jeremiah. There was another quake last night,' he added significantly.

She was about to protest when David gripped her elbow. 'Listen,' he murmured.

A faint echo; a dim, high-pitched keening sound came to her ears from somewhere on the far side of the vast chamber. It rose and fell, a wailing of several voices with no distinguishable words but an infinite sadness of tone.

'Runners!' David whispered. 'Come on, let's get out of here!'

They made their way swiftly along the aisle between the tanks, crouching so that they were partially concealed by the long, low walls and green fronds. The keening grew closer, somewhere between them and the exit staircase. David stopped suddenly, dropping to his knees and motioning Jillie to do the same.

Crouching, feeling exposed and vulnerable in the long aisle, she stared through the fronds in the direction of the desolate wailing and presently she saw them, six heads bobbing above the plants as the Runners trotted along an aisle at right-angles which would intersect theirs at a point some thirty yards ahead. She held her breath as they

reached the intersection, wailing in a dismal, spine-chilling ululation; then they came into full view as they jogged across the gap ahead, and for some reason they turned, wheeled in unison like Jeremiah's pigeons, and came jogging down the aisle directly towards her . . .

She jumped to her feet, David beside her. 'Run! I'll hold them off,' he snapped, turning to face the Runners who accelerated on seeing the couple; their wailing rising to a banshee shriek of anticipation and triumph. They were dressed in drab overalls and their bare feet pattered on the wet concrete floor as they raced forward with wide, mad eyes and slack, screaming mouths.

Jillie scrambled across the low wall and ran splashing over the hydroponic fields, the tangled roots catching at her feet. She lost a shoe but stumbled on. 'Come on, David!' she cried, glancing over her shoulder and seeing the fair man tear himself loose from a struggling mob and climb the wall to follow her across the field. The high roof echoed the yells of their pursuers and soon David was at her shoulder, gripping her elbow and urging her on.

'We can make it to the central shaft,' she panted. 'There's a hatch . . .' David did not reply, but pointed away to their left as he ran.

Her eyes had been fixed on the thick column in the steaming distance, the shining tower which rose from among the hydroponics and disappeared through the ceiling; but now she glanced in the direction he indicated.

A harvester was approaching.

A huge, trundling rectangle of steel hoppers footed by flashing blades, it spanned the entire width of the tank, suspended from the ceiling and supported also by the guide rails which capped the tank walls. Groaning and chattering, it flung an emerald cataract of sliced leaf and shoot into the vast hoppers as it rumbled inexorably towards them.

'Keep going. We can make it!' shouted David.

Jillie struggled on, sobbing now; both her shoes were gone and the coarse ponic roots were slashing cruelly at her feet. The harvester was close; she tried not to see the long,

clashing blades flashing viciously in the hard artificial light. Above the din of grinding machinery she heard faint cries of alarm from behind. Something unyielding struck her shins and she fell forward and screamed once, involuntarily. She lay with her hands to her ears. The ground felt hard. Dry.

'It's all right, Jillie. Get up.' David's hand was on her arm; he was drawing her to her feet. Trembling, she stood, leaning against him.

They were in an aisle, outside the tank; she had fallen over the boundary wall without seeing it. The harvester was level with them and she watched it in hypnotised fascination as it reached the Runners caught in the middle of the field.

Apparently their dementia had not altogether impaired their presence of mind. Five men flung themselves flat in the ponics. The sixth, however, backed away from the blades, holding out his arms as if trying to ward them off; his mouth was open but no sound could be heard. Suddenly he whirled about and tried to run. The blades caught him just above the knees.

Horrified, Jillie glimpsed a legless, twisted body hurtling backwards into the hopper, then David was dragging her away.

'Quick!' he shouted above the din of machinery. 'They'll be after us as soon as the harvester's gone.' He began to run, gripping her wrist.

She stumbled after him and they arrived, breathless, at the central shaft. David spun the wheel and swung the hatch open. A gust of hot, foetid air blasted their faces. 'Inside, quick!' he urged. 'I'll shut the hatch behind you and try to get back to the exit stairs!'

She paused inside with her foot on the first rung while the fierce updraught flung her loose dress over her head. 'Aren't you coming?' she asked indistinctly. Holding on to a higher rung with one hand she dragged the wet, clammy material from her face and regarded him anxiously.

His expression was a curious mixture of fear and longing;

he was looking at her legs. 'The shaft's open to the Atmosphere Up Top,' he muttered nervously, refusing to meet her eyes.

'Don't be a damned fool, David,' she snapped. 'There's an upcurrent; you can see that. Come in and start climbing.'

A chorus of cries decided him; the Runners had resumed the pursuit. He swung himself into the shaft and began to follow her.

They climbed for some time, hand over hand in the deepening gloom until the light from the open hatch was a tiny disc far below. The foul air was stinging Jillie's nostrils and eyelids; she closed her eyes and climbed on, trying to breathe as shallowly as possible. Once she glanced down to see David's head bobbing against the dim circle of light, then she closed her eyes again, hard, trying not to think of the terrifying drop below.

They had passed several hatches before she felt it safe to stop, spin a projecting wheel and step out into the brightly-lit corridor beyond. She turned and assisted David through the hatch, he slammed it shut, then they leaned against the wall to recover. They were in a corridor of Level 12; people passed, glancing at them curiously. The place was reassuringly normal.

At last David spoke. 'That's the last time you go Down Below,' he said shakily. 'Up Top is the place for women and children. Make sure you stay there in future.'

Impressed by his concern for her she asked about the Runners.

'It happens from time to time,' he replied. 'A group of ponic workers go berserk. A sort of hysteria gets one and others join in. I've seen twenty men running about. Just running and screaming. We tried taking them Up Top and showing them the sky, but it only made them worse. The cure is sedation for a day or two.'

'What would they do?' Jillie asked, and her body betrayed a thrill of fearful, pleasurable anticipation. 'If they had caught me, what would they have done?'

David stiffened. 'They would have killed you,' he replied

coldly. 'Just that and nothing else. They don't like women, Down Below.'

An hour later they knocked on the door of Jeremiah's room.

'Just let me do the talking,' David was telling her. 'I don't want this business to get fouled up immediately because you two are on friendly terms. At first, we keep it impersonal. Then, if necessary, you come in with the womanly sympathy. OK?'

'Right.' Jillie, who had been somewhat effervescent during the last few minutes in reaction from the pursuit, subsided. The door swung inwards and she gazed coolly at the stooping figure beyond. 'Hello, Jeremiah,' she said in carefully neutral tones.

'Jillie!' cried the old man in pleasure. 'How nice to see you. I've missed you this past week. And you've brought your boy-friend too. That's good. Come in . . .' He stepped aside to allow them to enter. 'Sit down, sit down . . .' He dragged chairs about, vaguely.

'Ah, Jeremiah.' David spoke in businesslike tones before the other two could start gossiping. 'This is in the nature of an official visit. I represent the Housing Committee. My name's David Bank——'

'But you *are* Jillie's boy-friend?' queried Jeremiah anxiously.

'Er . . . yes, but——'

'I'm very pleased to meet you, David. Too few young men nowadays will even look at women. Jillie's a fine girl. She deserves a husband. When are you two getting married?'

'We're not,' stated David flatly.

'Oh . . .' Jeremiah glanced from David to Jillie and back again. 'I see . . .' he murmured. 'You're a Stabiliser, I take it?'

'I am.'

In the awkward silence which followed Jillie cast her thoughts around for something to say. Jeremiah had

suffered a disappointment; he looked on her as a daughter—or granddaughter—and she knew that her happiness was important to the old man. Her gaze fell on the table in the corner. 'What's wrong with that pigeon?' she asked. 'Why isn't it outside with the others?'

Jeremiah crossed to the table and returned with the bird; the breastplate was open exposing an intricate mass of delicate machinery.

'It caught its wing getting in last night,' he said regretfully. 'It can't seem to fly properly.'

David was staring suspiciously at the skylight. 'I take it you have an airlock there?' he asked.

'Oh, yes. The birds open the outside hatch themselves, then when they're all inside the lock, I let them into the room.' The old man was regarding David with growing dismay.

'How big is the airlock?'

'Oh, I don't know—about four cubic yards, I guess.' The old man's eyes dropped.

'What! Do you realise that every time you open the hatch you let four cubic yards of Atmosphere into Festive?'

Jeremiah looked up again. 'Into my room,' he corrected. 'And I'm still alive, am I not?'

'You damned old fool!' David burst out. 'You've probably knocked ten years off your life!'

'Ten years,' repeated the old man softly. 'That's a long time, isn't it? But how can you be sure of the figures? How do you know how long I might have lived otherwise? In fact, how do you *know* the Atmosphere is poisonous?'

'Instruments, of course. The radiation count. We take readings . . . often. Often.'

'How often?'

'I'm not sure. The Council takes care of all that. Damn it, we're not all specialists.'

Jeremiah smiled. 'And the Council consists entirely of men, does it not?'

'What if it does? The figures can't lie.'

'I wonder what women would have read into those

figures,' Jeremiah speculated, 'had they been made generally available.' He regarded David quizzically.

'What are you getting at?'

'I'm getting at the fact that, for all we know, it might be perfectly safe to go Outside. I'm getting at the fact that men are scared to go Outside, more so than women. We've lived inside so long, the thought of the Atmosphere frightens us all to some degree.

'So why not maintain the *status quo*? somebody says. Why not give people to understand that the Atmosphere is still radio-active, so that those men in charge, who are scared of the fresh air, can still govern from their cosy little air-tight chambers? Why not form a Stabilisation Party, devoted to cutting down the birth-rate?'

'That's not the only purpose of the party,' David objected.

'Go on, Jeremiah,' urged Jillie.

'You see, David,' the old man continued, 'Jillie welcomes this notion. It fits in with her instinctive idea of possibility. Now I want you, just for a moment, to imagine something . . .

'Imagine a community, totally enclosed and, for the time being, totally self-supporting. Its original inhabitants began their lives underground but with the passing of generations the increased population forced them above ground level, but building in the same method, totally sealed from the outside air, because to breathe that is death. They build upwards, because the island of their community is small. Raw materials quarried from beneath the land and surrounding sea become more difficult to obtain, yet the population still increases. Imagine Festive.

'Imagine, now, the resultant attitude of mind. The outside air is poisonous. The community is incapable of much further expansion. The original food factories cannot be extended—lack of materials and knowledge. Everyone, men and women alike, agree to the solution. The birth-rate must be restricted.'

'Women agreed?' queried David sceptically.

'Oh, yes; they agreed at that time. All this is hypothesis, remember. But let us suppose that this system works and the community becomes stable. But lurking at the back of everyone's mind is the sure knowledge that machinery does not last for ever; that one day in the near or distant future the air purification plant will break down; or the food factory, or the electricity system. One day there will be a breakdown to an extent which, with available knowledge and materials, cannot be made good.'

The small room was silent as Jeremiah paused to let this fact sink in; David started nervously as a minor quake caused the lights to flicker. Jillie's gaze was fixed on the old man's face. They had never spoken together on this subject before, but she felt she knew what was coming next.

At last Jeremiah continued. 'There was a thing, once, which used to be called Nature. It had a habit of taking its course, I believe they used to say . . .'

'So Nature has reappeared in man-made Festive and taken over. She is trying to force the community to expand and burst out of its confines before it is too late. Man's restriction on conception is countered by multiple birth. Women have become aggressively sexual, without realising why. Men have retreated to the lower levels of the community, preaching Stabilisation with logical tongues. Women have moved, intuitively, to the top levels, because that is nearer to the Outside . . .'

Jeremiah looked hard at the young man. 'Does that fit, David? You visualise the men cowering protectively about the falling machines, while the women long for the fresh air? Does our hypothetical community sound a little like Festive?'

David's face was white; he glanced at Jillie and she flinched at his expression. 'I've never heard such a load of crap in my life,' he said stonily. 'It's fortunate for you that you're a friend of Jillie's.' He was forcing himself to speak steadily and Jillie realised with acute sympathy that logic had been countered with superior logic; male supremacy was threatened by a man . . .

'It doesn't matter what you believe,' said Jeremiah quietly. 'I'll never live to see the change.'

'It'll matter to you when you're shut off from the sky, old man!' David's voice had risen; he was hitting back unthinkingly. 'When you can't fly your birds any more because you've got three rooms built above you. And that won't be long from now, you can be sure.'

From the stricken expression on Jeremiah's face, Jillie knew that David had made his point.

Jillie trotted along the crowded corridor of Level 8 savouring, as ever, the tingling excitement of male proximity. This was her favourite of all corridors; where men and women mingled in equal numbers without the sullen animosity of the lower levels or the frustrated feminity Up Top. Every now and then she would brush against an incautious man with a gay cry of 'Sorry!' and feel again the all-pervading thrill of physical contact. On this corridor, she was not ashamed of her actions; all women did the same and the men seemed to expect it. If only the men would *do* something about it, she thought, and hurried full tilt, but this time accidentally into a man who did do something. He held her at arms' length, firmly.

'Sorry!' she said brightly, then she saw his face. 'David!' she gasped.

He had been avoiding her, apparently, for over a week. She had called him at work and they had said he was busy. She had tried his room, knocking without response. After a few days she had given up, deciding sadly that what little had been between them was over, in the manner of most such affairs. But now he seemed to want to speak to her.

'Hello, Jillie,' he said in studied, neutral tones, still holding her nevertheless, as though afraid she might run off. 'It's been a long time. Where can we talk?'

In her consuming desire for him she found it difficult to speak. 'There's ... There's a rest room along here,' she stammered at last.

Fortunately the room was empty; they could speak freely. She took a chair but David still stood awkwardly, leafing through a month-old copy of *Festive Life* at a writing table.

'I see ponic production is up,' he said absently. 'Er . . . I'm sorry about last week, Jillie.'

'That's OK.'

'I mean what I said to Jeremiah. I'm sorry. I lost my head. Maybe . . . Maybe he's right. I don't know. I wish I did.' He looked at her at last. 'I can't get the Housing Committee to reverse its decision,' he said, flushing. 'But I've managed to delay things for a while.'

Jillie had recovered herself and a touch of ancient Woman asserted itself. 'What's brought about this change of mind?' she asked, acidly.

'Er . . .' he hesitated. 'I got a sight of Council records. It's just conceivable Jeremiah was right. About falsification of public information, I mean. About radiation counts, and so on . . .'

'Just what *do* you mean, David? What did the radiation readings say?'

'There were no readings. There was nothing.' His voice betrayed perplexity. 'Nobody's taken a radiation count for over a hundred years! Why? Why, Jillie?'

She took a breath. 'Because, Down Below, they're satisfied with the *status quo* and always will be. Like Jeremiah said, so many generations have lived indoors that they're scared to go out. They like things as they are.'

David spoke seriously. 'Don't get carried away, Jillie. Because no counts have been taken, it doesn't mean there is no radiation.'

'David, we must have been exposed to minor radiation for a very long time now, ever since Festive began to build above the ground level shields. Isn't it possible we've adapted to it?'

'It's possible.'

'Then . . .' Suddenly she stood and took his hand. 'In spite of all this, in spite of the fact that almost, you believe Jere-

miah and you think that the Council could be hoodwinking us all, you're still scared to go Outside?'

He refused to meet her eyes. 'Yes . . .' he said at last. 'I can't help it, Jillie. I'm scared. Scared of the Atmosphere. I know I couldn't breathe it. It's not just radiation. I don't trust it . . .'

Jillie crept quietly behind the banks of horizontal cooling pipes and waited for the workmen to pass. They strolled along on the other side of the pipes, silently in a group of five on some obscure mechanical mission, carrying wrenches. She caught sight of their faces through the narrow slit between conduits; their expressions were blank, almost moronic. It was easy to imagine this group running amok; their eyes betrayed a permanent condition of dull shock one step removed from hysteria. She waited . . .

Yesterday evening she had visited Jeremiah and they had spoken at length into the night and he had told her of the layout Down Below, of the things he had seen and heard during his lifetime. And his description which had interested her most was that of the One House; the single construction above ground level built at the same time, so it was said, as the original underground Festive. Her curiosity was aroused. Why one above-ground building, when everything else was hidden underground? What was the purpose of the One House?

Jeremiah had never seen the interior but he knew that the One House could only be reached from Down Below; there was no ground level or upper level entrances. As Festive had expanded upwards, the One House had been surrounded on three sides by new buildings and had eventually been submerged beneath the upthrust of the soaring city.

But the fourth wall of the One House was bounded by the sea . . .

The workmen had passed; they shambled through a scarlet door at the far end of the large room, pulling it shut behind them. Jillie rose from her concealment and looked

around. She was in the middle levels of Down Below, close to the ponic fields. Now she had to make her way in an easterly direction from room to room, avoiding the exposed corridors. She began to wish she had brought David.

To her left lay the huge areas of the generating plant; according to Jeremiah's description she must keep straight on through the workshops until she reached the eastern extremity of Festive: the rock wall which marked the boundary of Down Below. There, so the old man said, she would find the entrance to the One House.

The room was empty. She moved quickly to the green door in the wall adjacent to that through which the workmen had passed and eased it open. Beyond was a large area, brightly lit, the floor arrayed with benches, lathes, presses and other machinery. A number of men were working; some moved from bench to bench observing and directing. Gusts of hot, oily-metallic air wafted past her and the mechanical clatter was deafening.

'Can I help you?'

She whirled round, startled. A tall man was regarding her curiously. The beginnings of fear which had constricted her chest eased; he looked harmless.

'Oh . . . I was just looking around,' she said lamely.

'Funny place for a young woman to be looking around, all alone,' he observed after a thoughtful pause. 'Let me show you. It's as well for you to have a companion, Down Below. My name's Andrew Shaw,' he added.

'Jillie . . . Jillie Adams.' She clasped his proffered hand, conscious of a feeling of unreality. For the past hour she had been creeping Down Below from one point of concealment to the next in fear of her life, only to be welcomed in the friendliest fashion by the first man who saw her.

'I'm the Overseer here,' he explained, 'and you were just spying on the Maintenance Department.' His grin took the sting out of the words; she found herself liking him, and more.

In the humid atmosphere her dress was clinging intimately to her body and, as Andrew Shaw took her arm to

pilot her into the Maintenance Department, she made an effort to rid her mind of wayward emotions and concentrate on the one fact: she had come Down Below with the specific purpose of examining the One House and for no other reason.

For the next half hour Shaw explained to her the workings of the Department, leading her from bench to bench, introducing her to welders and turners, drillers and cutters, all of whom acknowledged her presence with the utmost politeness before returning to their tasks; none of whom, to her infinite chagrin, acknowledged her unique womanhood in a community of men.

At last Shaw took her to his office, a small cubicle with large glass windows commanding a view of the area. She sat down, hitching her skirt around her thighs.

Shaw leaned against the wall, regarding her with some amusement. 'Don't sell yourself short, Jillie,' he remarked. 'You're an intelligent girl. Now perhaps you'll credit me with some intelligence and tell me the real reason you came Down Below.'

Abashed, she dropped what she had intended to be a frank and appraising stare. 'I'd heard stories,' she muttered at last. 'I wanted to find out what went on down here. I was curious. I wanted to find out how you lived—all you men, I mean.'

He laughed openly. 'Just like a woman. You can't believe men can exist without you . . . I can assure you that we conduct ourselves with the utmost propriety. We immerse ourselves completely in our work which, basically, is to keep you people Up Top alive.'

'Sorry . . .' She gazed through the window at the workers; they *seemed* happy enough. And at least they had a purpose; their work was demonstrably useful unlike so many of those Up Top. 'Do you ever get . . . Runners, in your department?' she asked.

'It happens,' he admitted. 'I've never been able to figure out why.'

'Maybe living a useful life isn't enough,' she suggested.

'Maybe they want something else, without knowing what it is.'

'Women, you mean?' Shaw frowned. 'I don't see any sign of it, do you?'

'I don't mean women. I mean . . . well . . .' she hesitated. 'How do you feel, cooped up Down Below all the time?'

'I feel fine.' Shaw regarded her, puzzled. 'I was born here, I've always lived here. I don't feel cooped up. How do you feel, Jillie?'

She looked away. Suddenly, she wanted to confide in someone, in someone younger than Jeremiah; someone who might understand the problem from her own standpoint. 'I want to get out,' she muttered. 'I want to go Outside, into the Atmosphere.' Her voice rose. 'I want to stand on the roof without a suit, with no clothes at all and feel the rain on me with no walls and no ceiling . . .' She felt, dimly and too late that she was losing control and the tears began to fall. 'I want to marry David and have lots of children and go away from Festive to a big place, a . . . continent, and lie down in the Atmosphere and sleep under the sky and I can't, because I'm shut in here and I can't get out——' Her voice had risen to an incoherent wail but she couldn't stop.

A huge pain exploded in her head; the shock checked her outburst. Shaw was standing over her; he had slapped her face violently. She gazed at him, horrified, through a veil of tears.

'You asked about Runners,' he said. 'Well, that's how they start. I'm sorry I had to do that, Jillie.' And he bent down and kissed her gently on the lips.

And afterwards, it seemed perfectly reasonable that she should ask him to take her to the One House, and that he should agree without hesitation. It appeared that there was nothing secret about the place; but its existence was not generally known. He confessed that he was intrigued by her interest in the House and by the fact that she was unable to explain, exactly, what she hoped to find there. He described it as being apparently some kind of museum.

So they climbed the narrow spiral staircase against the rough rock wall which marked the subterranean limit of Festive, opened the unlocked doors and, hand in hand in the glowing aftermath of physical love, they examined the ancient wonders of the One House.

There were machines, many of them, huge and incomprehensible, reminding Jillie of nothing so much as the cockroaches which infested the eating areas Up Top, but in their great mechanical perfection infinitely less repulsive. In fact, she thought as she stood beneath a wheeled monster of sleek proportions capped by long slender blades, they were beautiful. Their purpose she could only guess at, but it was obvious that they were not a fixed part of the Festive equipment. They were individual, mobile machines, built to be operated in an environment other than the large room in which they now stood; built, obviously, to be operated Outside, in the Atmosphere.

They wandered among the machines and speculated as to their use, then, at the very limit of the room where tall steel doors protected the One House from the sea and the Atmosphere, they encountered a long, low object.

'That,' said Jillie definitely, in the certainty of past learning, 'is a boat. For going on the sea,' she explained further.

'Why?' asked Andrew Shaw.

She looked at him sadly. He just was not attuned to her way of thinking. In short, he would not do.

Half an hour later they parted at the foot of the stairs to the ground level. Jillie held out her hand formally. 'Bye, Andrew,' she said.

'Goodbye, Jillie. Anytime, you know . . .' he replied awkwardly.

'Thanks a lot,' she said. 'I might need your help again some time. Maybe soon,' she added hopefully.

'It's possible . . . that I might be in trouble before long. What we did in the office . . . we did in full view of the men. I don't know what got into me. I'm a Stabiliser, you know. I'm supposed to set an example . . .' His voice trailed off.

'Resign from the Party, Andrew,' said Jillie brightly. 'You're not the type.'

It took a very long time to convince David, but Jillie persevered, pointing out yet again the logic of Jeremiah's theories which appeared to be verified by her observations and the significant cessation of Council radiation records.

'I tell you it's safe, David,' she repeated yet again. 'It's just like breathing Festive air.'

The lights flickered as the room trembled to another quake. Over the past week the tremors had been the most serious yet recorded and Jillie was possessed with a sense of urgency; she had to convince David and through him pressurise the Council, before the widespread recent power failures caused the population to panic. Or, if everything else failed, maybe she could set an example . . .

She had observed the change in her sector during the last week. People glanced apprehensively at the walls as they walked, wincing with each tremor and, on the corridors being plunged into temporary darkness, there had been outbursts of hysteria. She had been conscripted into a temporary position as a nurse working alongside qualified doctors in the Medicentre, and she had been alarmed at the recent increase in admittances for sedation and psychiatric care.

'But how do you *know* it's safe?' David was asking again. It was apparent that he wanted to believe her, but the concept of breathing untreated, unpurified air into his lungs represented a mental barrier he could not surmount.

At last Jillie's patience was exhausted. 'I'll prove it to you!' she snapped. 'And I'll tell you this—I don't know why I bother. I could find a man who would be pleased to come with me if he knew what you know about the Council. You're yellow, David. But just to prove I'm right, I'm going on to the roof without a suit. And you're going to watch me do it!'

'I can't let you do that,' he muttered.

'Just try to stop me . . . And then, when I've walked on

the roof before as big an audience I can get, I'm going Down Below and take that boat away and if you won't come with me, someone else will!' Frustrated, she was close to tears. She ran from the room abruptly, slamming the door behind her and hating the uncertain look on David's face.

He caught her two floors below the roof. At this point the stone corridor was broken by one of the few windows in Festive; she paused to look out, craning her neck and seeing a stormy sky above the wall close opposite. Looking down, she saw Jeremiah's skylight and could make out, dimly, the figure of the old man pottering about his room. This was the square well in the otherwise flat Festive roof down which the pigeons came; the well about which there had been so much controversy. A hand gripped her arm.

'Now don't do anything stupid, Jillie.' David's voice was intended to be soothing, but held a hint of helpless alarm.

She tried to pull herself away but he held tight. A crowd was gathering, grinning men and women pressing close and curious.

'We're making ourselves ridiculous,' she hissed, struggling. 'Let me go, David!'

'I don't care!' he shouted recklessly, staring pugnaciously at the faces around. 'I'm not letting you kill yourself.'

Jillie was thrown off her feet and for an instant thought that David had gone berserk. Then, as she fell heavily, she felt the floor heave beneath her, and the screaming began.

Someone was lying on top of her; the weight pressed her to the tossing floor and, twisting away, she found David's face next to hers.

'It's a quake!' he shouted unnecessarily. 'A big one!' His eyes were bright with fear.

Jillie tried to rise but fell back as another tremor rocked Festive to its ocean roots. She lay quietly then, her head embraced by her arms, hearing the shouting and wailing and the heavy thumping in her throat as the community screamed with one voice, as though by screaming it might frighten away the monster Earth which was destroying it.

Then, in a sudden silence, the patter of falling plaster and stones from the ceiling sounded loud. The floor was still; she climbed to her feet, looked around for David and saw him rising also, rubbing his head.

He was not looking at her; she felt a flush of annoyance at his lack of concern for her safety, then she caught sight of the expression on his face. Naked fear was there; he was staring at the window and, as she followed his gaze, she saw the shattered glass falling away . . .

Great, rolling white clouds surged about the corridor in an instant. Jillie saw men and women clutching at their throats, eyes distended as they struggled to breathe. Hoarse shouts and strangled coughing rose in tumult. She stumbled away from the gap, holding her breath, dragging David with her. An alarm bell jangled belatedly as they reached a rest room and flung themselves inside, slamming the door behind. They heard the pounding feet of the suited Rescue Squad racing past to seal the gap and evacuate the victims.

In the sudden quiet of the room David eyed her grimly. 'So much for your theories,' he said harshly, coughing. His face was flushed and his cheeks wet with tears.

His comment did not call for a reply and Jillie remained silent, wondering about the people in the corridor and whether the Rescue Squad had been able to get them out in time. She said: 'I must get along to the Medicentre, David. They're going to be busy for a while.'

'Just wait a moment. Give the Squad a chance to plug the gap and clear the air. Then you can go to the Medicentre and I'll evict Jeremiah and get the building team in. None of this would have happened if you hadn't persuaded me to leave him alone. My God, we were lucky the wall didn't crack. The whole structure of the Sector is unstable in this area.'

Then they sat in silence, not looking at each other, and after a while the All Clear bell sounded.

Later Jillie tapped on Jeremiah's door and entered on hearing David's voice. The room was a mess; broken plaster

was everywhere. Jeremiah sat slumped in a chair. David stood, irresolute following her arrival; apparently he had been about to leave.

'How many died?' he asked stonily, with a glance at the old man.

She hesitated. 'Two,' she admitted at last. 'But——'

'Two,' he repeated. 'Two people died needlessly because of the Committee's sentimentality about one old man. There's not very much more to say, is there, Jillie? Anyway, I've told him to pack his things and he'll have to move into temporary quarters while building is going on; then he can move back here. It's the best I can do. I'm not blaming him. I'm blaming the Committee and myself.'

Jeremiah had dragged himself to his feet and donned his mask; he climbed to the hatch and threw it open to admit the returning pigeons; it was noticeable that a few wisps of white Atmosphere accompanied the electronic birds into the room.

'Look at that!' David observed grimly. 'I reckon he knew all along. He must have seen that muck coming in every day, but he didn't tell us. He was too wrapped up in his damned hobby to bother about Festive.'

Jeremiah looked up from his examination of the birds. 'I didn't think it mattered,' he said softly. 'It doesn't always happen like that; only when it's stormy outside, in the summer. I put it down to condensation. We know that the plant Down Below isn't in good shape. I'd worked it out that the pressure inside Festive is a little lower than Outside and colder too. I thought it was humid air condensing.' He looked at Jillie, pleading. 'Like steam from a kettle,' he mumbled.

'Balls,' retorted David crudely. 'You're just covering up for yourself. That sort of excuse will get you nowhere.'

'David——'

'And you, too, Jillie. You believe what you want to, like all women. You ignore hard facts. Two people died, remember that. I might have died myself. I couldn't breathe —I know that much. I ought to go for treatment my-

self; God knows what poison I've got inside my lungs.'

'You needn't bother, David,' said Jillie firmly.

'What?'

'There's no poison in your lungs. I've just got back from the Medicentre, remember? Those two people—they weren't poisoned, they had weak hearts. They were asphyxiated and died from heart failure. The others all recovered with no ill-effects.'

'What on earth are you talking about?' David flushed angrily. 'Are you trying to tell me I imagined that white filth that came in? I tell you I couldn't breathe. I choked. You saw me.'

'I saw you . . . but you were choking because of what *you* saw—when you knew the window was gone your windpipe closed in a reflex spasm. The same thing happened to the others. It became mass hysteria in an instant. You've been so conditioned to the theory that the Atmosphere is poisonous that your mind accepts this as a fact and refuses to allow you to breathe it.'

'Then what was the white stuff? We both saw it again, just now.'

Jillie smiled. 'Condensation, just like Jeremiah said . . .'

David grunted. 'I prefer to believe the evidence of my own eyes, thanks. I saw people die breathing that muck. I tell you, nothing can live Outside . . .'

Jeremiah looked up; his eyes were bright.

'Something can, David,' he said. 'Look!'

David's eyes widened as he stared from the fluttering object cupped in the old man's hands to the row of motionless, switched-off birds on the tubular perch . . .

'They're not really very good replicas, after all,' observed Jeremiah shakily. 'But they were good enough to fool this little fellow.'

Uttering soft bubbling sounds the bird regarded them with bright, alert interest.

'I don't know . . .' muttered David. 'For God's sake, I just don't know. Maybe you're right. I don't *know* . . .'

Jillie stared at him in futile anger. 'What more proof do you want? Don't you see? This is the sort of evidence we've been waiting for—this is the proof which you can take to the Council, and if they won't listen or if they make any attempt to suppress it, we can blow the whole of Festive wide open by making it public ourselves, and *showing* people. And then we can live the way we were meant to live, in the Open Air, with no fear of radiation or any other sort of pollution, because if the Atmosphere will support birds, it'll support us. Just imagine it, David! We could get away from this place, perhaps tomorrow, and people would see us, and follow. And if the Council and all the other yellow-bellies Down Below want to stay behind, that's up to them. But they can't deny the rest of the people a chance to live properly.'

David stared at the bird, irresolute. 'Suppose they can't bring themselves to breathe, even after we've shown them the bird? We've been in Festive a long time, Jillie.'

Jeremiah was watching the two of them impatiently. His gaze wandered about the small room, taking in the stone walls, the pathetic skylight, the piles of rubble littering the floor, the cracked ceiling, the rough, ancient furniture. He heard the faint hiss from the air duct and the muffled footsteps and occasional chattering from the corridor. He sniffed and could smell the odour of Festive anew, although his nose had had a lifetime to get used to it. Suddenly, he realised that all this, the impressions of a lifetime, was perhaps not worth so very much . . .

He released the pigeon which fluttered across the room, alighted on the perch and examined curiously its immobile companions.

Moving with surprising speed, Jeremiah snatched up a battered aluminium chair and flung it through the skylight.

'Now, David!' he shouted as shards of glass rained about him and the white clouds billowed in, 'breathe, damn you, breathe!'

David breathed.

A MEMORY OF GOLDEN SUNSHINE

by

KENNETH BULMER

There could be more than one way of travelling through Time—Race memory, for instance, which could be very useful in today's turbulent world.

A MEMORY OF GOLDEN SUNSHINE

'TIME travel?' said Harriet Milsom dubiously. 'Do I believe in it?' She pulled her elbow in over the door of the convertible and rubbed the slipstream-chilled skin reflectively. Her dark glasses regarded him slyly, two inky enigmas. 'Should I believe, Harry?' She knew exactly what she was doing. 'Try to convince me.'

'You'll turn the Last Judgment into a joke, Harriet.' Harry Hudson, as befitted a young man who considered himself a serious archaeologist, liked to concentrate humour and work into separate compartments. 'I don't mean actually travel in time——' He jerked at the wheel and the convertible hissed around a clanging aluminium truck. The car swayed on soft springs throwing Harriet against the door.

'You could see that truck a mile off!' she protested in ruffled anger, shrugging her yellow and white dress straight. 'I should never have let you drive.'

'You can take over again after Andy's.'

Sunlight razored off the truck's corrugated aluminium sides like ranked serrated blades.

'If we get to Andy's.'

The restaurant lay ten miles short of the secondary turnoff leading to the bay and the beach and the twisted neck of water half-throttled by an overgrown island the locals called Leaf Island and Leaf Cove. That word Leaf sounded musically in Hudson's ears. Already sea tang in the air braced his shoulders back as his nostrils widened.

'Don't forget,' Harriet was saying in her brisk scalpel-fashion. 'Professor Saintsbury has some respect for my brain power, admittedly in a field outside his own, even if

none of us has the slightest respect for your driving capabilities.'

He glanced obliquely at her, seeing the dark hair flaunting in the slipstream, the sunglasses, the lithe abandoned pose of the yellow and white dress—she was all a figure from the seventies and because of that the power of the brain behind the slightly petulant face should come as no surprise. Harriet Milsom and organic biochemistry had been soul-mates from grade one.

Hudson wrenched the wheel again, hearing the tyres squirm, feeling himself squirm. Harriet had damn flaying ways. 'I meant what I said. It would be sort of time travelling—if your synthesis holds up.' The road ahead, leaping at him, white and demanding and insatiably there, represented life and urgencies of living. Leaf Cove and the dig, the coolness of the trenches, the yellowed whiteness of bone, the dirt-encrusted artifacts that yielded to patient brushing a breathless wonder of time-past in time-present—these were the realities of life to Harry Hudson. 'A sort of time-travelling,' he said, again. 'But only that. Only that.'

'Don't do yourself an injury, Harry.'

So she could understand, then! As the red convertible squealed around a bend Hudson felt once more the tremor of sexual fear he had immediately experienced on seeing Miss Harriet Milsom for the first time. Her tentacles probed deeply.

The restaurant showed ahead, streamlined, neon-lit, blaring, ringed by abandoned refuse awaiting a problematical collection, music drowned. Hudson pulled into the lot and stopped the car. He hauled on the handbrake click by click, feeling a sensuous tremor of reprieve. 'Andy's,' he said. He took off his dark glasses, waved them vaguely, put them back on, climbed out of the car. Harriet had reached the door by the time he caught her; wiping his forehead, he was too late to act the gentleman.

They sat in a booth with Cokes and for the moment were content just to let the fizzy tickle moisten the dust-lining of their throats.

'What did you mean,' she said at last, 'if my synthesis holds up?'

'I didn't mean that, Harriet.' He shifted uncomfortably. 'You know what I mean. No one knows if this scheme will work. It's only my idea——'

'And my chemistry.'

'Yes. Yes, of course. Oh, hell, Harriet—you know what I mean!'

'All I know is you want me to synthesise a system for RNA production under controls as directed——'

'By using ordinary drugs—like Alert Phase Seven Eight—you can produce extra large amounts of RNA in a person's brain and this, we know, strengthens the memory——'

'You're picking it up very well, Harry.'

He finished his Coke in a huff. His sports shirt clung to him and his slacks felt hot and sticky around his legs, clinging. 'Care for another?'

'Yes——' she began and then paused. Hudson screwed his head around. In this hot weather black leather and crash helmets added a heightened flush to the faces of the motorbicycle riders. They crowded in, taking off their helmets like space capsule riders, stamping their narrow legs, flexing corded muscles, talking loudly, blowing, the centre of a permanently carried about stage.

Hudson turned back to Harriet and saw she was rising.

'Time we were pushing on,' she said tartly. 'Professor Saintsbury will have everything set up by now.'

'Yes.' He spoke the word normally; but he felt it as a mumble.

The black leather skid kids lined up at the counter.

Their decision as to refreshment, taciturn, voluble, incoherent, bellicose, resulted in agreement of a kind. The argument, Hudson thought, the distaste in him stiffening his face, must have started over something else. Whatever started it was of no importance. One black leather back hit the floor; a boot struck. Someone yelled. A man at the nearest booth said something—Hudson did not know what

—and a youth with a casual slap rapped him back into his seat.

'Drag him, man, he ain't worth a punch.'

The massive Red Indian heads—all feathers and swastikas and wampum—painted in lurid colours on the black leather backs flicked around to the counter as gilt and brass trimmed fronts showed, leering faces above losing their sullenness in the promise of action.

Hudson felt that the word punch did not mean a blow; more likely a puncture and that an in-word for something else. The man cowered back on the seat. He had tried to rise and leave; but a hand on his shoulder had forced him back.

'Now, listen here——' he began. The bluster drowned like a kitten in a bath tub.

The boy who had been kicked on the floor struggled to his feet, glad that now other game had been flushed he could rejoin the wolf pack.

Harriet said: 'Where's the counter-hand? We can't just stand here and do nothing.'

'No——' said Hudson. He licked his lips. 'No—we can't do nothing——'

Harriet pulled her dark glasses down her nose and stared at him. 'Well——?'

There were, he felt resentfully, all manner of correct things he could say and would be perfectly justified in saying, at length and at some heat; but nothing he could say now would retrieve this choicely disastrous situation. Nothing further need be said; certainly nothing need be done. Everything necessary had been catastrophically lined up, and dumped on his head with the unerring aim of all objects deposited from great heights.

The counter-hand re-emerged from the kitchens and said: 'I've called the cops. You'd better beat it.'

One Red Indian essayed a smashing spree in the direction of a display case, but the counter hand slapped a sap down with a juicy thud and the motor-cycle riders took the hint. Noisily they left, their engines outside revving up like

amused and uncaring raspberries, good humoured and deadly. Hudson swallowed.

'Shall we go now, Harry?' asked Harriet. The tone of voice thrust the misericorde in the last half inch.

Useless to pretend that nothing had happened . . .

Useless to blind himself to what had been self-evident from the day he'd met Harriet Milsom. She strode like a young lioness from the restaurant, standing with her body flaunting its yellow and white dress on the steps, watching the motor cyclists, listening—as Hudson, too, listened—to their whistles and calls of appreciation. With ear-shattering roars the bikes took off, spitting dust.

'Pity,' said Harriet, leading the way to her red convertible. 'They're not going our way. And here comes the fuzz. If we weren't in a hurry I'd——'

'Professor Saintsbury——' began Hudson.

'Oh, for Pete's sake, Harry! I know!'

He could have got his face smashed in and his ribs fractured, of course—he could have. No doubt, he thought with a mean-streak unusual to him, she'd have liked that.

At Leaf Cove waited the trenches, the artifacts, the realities of life for Harry Hudson. That, at least, Harriet could not change.

At Leaf Cove they scrambled straight from Harriet's car down the steep track with its overhanging vegetation slashed back to the beach. Nine hundred years ago the place must have looked very different from this. Then there would have been wooden huts, the postholes of which were creating such a bitter argument now, mangy dogs, the smoke of wood fires, skins framed out to dry, the dragon ships pulled up on their false keels, out of the water and out of the element where they became foaming steeds of the ocean. Perhaps over there on that flat expanse a few youngsters would play with fierce ardour and wooden swords and shields the deadly games of their fathers. A hunting party might be returning, wild men of the Northland bringing their own reckless savagery to a land already well-provided with its own barbarism. The talk would be of

the hunt and of the skraelings, and the prospects for the winter, and of the new expeditions from Greenland, and the awe-inspiring possibility that the Bishop of Greenland, himself, might visit this far-flung diocese.

Professor Saintsbury welcomed them in with a curse.

'If you two have been goofing off indulging yourselves——'

Hudson, before Harriet could frame the thunderous rebuke flashing shrilly in her face, said: 'We got here as fast as we could, Professor. I drove some of the way.'

'Oh. Well, come on, I'm indulging you, Harry, with all this nonsense. I don't have too much time to waste.'

Professor Saintsbury had once played in the forward line and his shoulders attested to that. His dark hair and stubbled chin, the driving personal magnetism of the male animal and his agate eyes had combined, in a way incomprehensible to Hudson, to place him in the chair of archaeology at the University. Hudson would have agreed that Saintsbury had, at one time, been rather a good archaeologist; but now . . . Hudson jumped when the professor called.

'Come right away, professor . . .'

They walked between piles of dirt and detritus, sieves, shovels, picks, brushes, gangplanks, all the necessary impediments of a thoroughly conducted dig. Hudson called across to Alice Leathworthy, taking photographs, and she nodded back absently, engrossed with shadows and highlights. At the mouth of a trench they paused.

'I thought this one, Harry.' Saintsbury sounded brisk and no-nonsense. 'If the runes were right and they did penetrate inland then it's likely only the men made that expedition. This one is a man. Big fellow.'

The Viking settlement had been raided and smashed by Indians, nearly a thousand years ago, and this man over whose grave they now stood had been buried by his companions presumably when they had returned from the interior. Where had they gone? Saintsbury and Hudson wanted to know. They wanted to know all there was to know about the North Men of North America. Hudson

wanted to know because he was an archaeologist and the concept had fired him passionately. Saintsbury wanted to know—sometimes Hudson wondered just why the athletic, woman hunting, popular professor wanted to know apart from the obvious reasons.

Working with absorbed care they removed two of the exposed and parted vertebrae. 'We've done everything we need to on this one, Harry, and by being late you've held us up.' Saintsbury did not intend to let that little matter drop. Plainly, to Hudson, the professor experienced jealousy over Harriet. Hudson, prying loose part of the backbone of a Viking dead nine hundred years, wished there was reason for that jealousy.

There had been no question in Hudson's mind of querying Saintsbury's choice of specimen. They carried their spoils up to the administration area and laid them carefully on a table in the lab tent. 'This won't take long,' said Harriet firmly.

'You're sure you want to go through with this?'

At Saintsbury's faintly patronising, faintly sneering tone Hudson knew he couldn't withdraw, even had he wished to do. Now, now that the moment was approaching with the rapidity of a capsule re-entry, he wondered if he should feel fear. He was afraid, of course; but should he feel any more deeper emotions than the obvious?

'There's no danger,' he said, speaking as off-handedly as he could. 'I'm only going to acquire a fresh set of memories.'

Harriet had her preparations going well, the bone ground into powder form, the drugs mixed and decanted or whatever she did. All Hudson cared was that his idea should be put into practice, that work done by talented scientists in training worms to set patterns and then feeding those worms to other worms, who inherited the memories of the dead, should not be overlooked. He wanted to make sure that extra production by the brain of RNA, which stimulated memory, should be used by him for his own purpose.

'Just think of it!' he'd told Harriet when he'd first asked her to help. 'Memories are inheritable, and memory can be

strengthened by Ribonucleic acid—so you add the two together! I'm going to inject a piece of a Viking and then stimulate production of RNA in my brain—and——'

'And you'll be lucky if you remember what the Viking knew!'

'It should work! Why not? I've been working on the problems of the Northmen in Canada all my life——'

'You haven't a clue about biochemistry, have you?' She'd begun, then, her reduction of his *amour propre*. 'I'll set up a programme. This intrigues me. I assume you can help with the funding?'

Professor Saintsbury had, on first approach, been not too keen. But as soon as he had met Harriet he had been only too willing to appropriate funds from his department.

Hudson had been grateful.

With a background of stolid Middle Western respectability and above-average results through college and university, Hudson had fought free of the Laocoon coils of Big Business and had—quite deliberately—chosen to rusticate in archaeology. The thoughts and imaginations of epic adventures would, he had decided, do for him.

Professor Saintsbury, now, would have rowed a pretty oar in a dragon ship.

There had been, so Harriet had told him, pursed of lip and concentrated of brow, a whole hell of a lot more to do in making his crazy idea work. Remembering-worms and memory drugs! But, she said, her synthesis would produce the result he required. From the cells of a long dead Viking he should draw the memories through her alchemy.

The two halves of the programme had now been brought together. Harriet's RNA-yielding yeasts and her own brand of synthesis had been brought to this tent—Hudson was scarcely likely to forget that recent red convertible ride—to be wed to the ancient bones provided by Professor Saintsbury. Cells were cells, Hudson had said; all memory in any cells—using the dead Viking's backbone had been a bravura exercise in insurance in the absence of surviving brain cells.

Saintsbury watched Harriet bending over the final stages

of the work. He was, Hudson felt sure, admiring the stretch of the yellow and white dress and not giving a thought to the experiment. He didn't believe it could be done. That had been self-evident. Hudson, weakly wondered if he, himself, really desired success.

To take Saintsbury's mind off Harriet, Hudson said: 'If we can show the Norsemen really did visit Lake Superior for copper——'

'The Vikings settled in America, all right,' Saintsbury said boomingly, not looking away from Harriet. 'We don't have to prove that any more. They don't call this place Leaf Cove for nothing—Leif Ericson landed here, you can bet on it. And right up to the fourteenth century the Vikings lived and colonised. Then——'

'The Skraelings . . .'

The word struck a shivery spooky feeling up Hudson's spine.

'But if you recover this man's memory, Harry—well, if you do—I'll be the first——' Saintsbury stopped talking, took his eyes off Harriet as she straightened up, and walked to the opening in the lab tent.

'All ready.' Harriet's voice carried flatly.

'Yes.'

'Feeling fit?'

'Huh? Oh, sure, sure. Let's get started then, shall we?' Hudson spoke with a china-bright gaiety.

In his own mind Hudson had determined to keep the procedure on an unadorned level; he refused to admit any ceremony. All he wanted to do was inject the memory-conveying cells of the dead Viking, take the RNA yeast, and under the spell of Harriet's alchemy, remember what that long dead Norse warrior had known.

Afterwards they stood looking at him. His hands trembled. He stood up quickly from the camp stool. His face felt clammy. 'I——' he said. 'I—feel all right—I think.'

'You'd better lie down and rest while the stuff takes.' Harriet had no sentimental attachment to protocol in her dealings with her own speciality.

'Yes. All right. You'll wake me——?'

'Yes, Harry. We'll wake you.' Saintsbury smiled pleasantly. He and Harriet went out as Hudson threw himself down on the camp bed. This experiment had to work! For the sake of wiping that smug grimace from the fat face of Professor Saintsbury—it had to work.

The sun had set when he awoke and a forest and shoreline stillness, in that strange amalgam of two environments uneasily meeting, sharpened his senses as he stepped out of the tent. He took deep breaths of the night air. The stars showed clear; high and remotely singing. Blue and silver shadows coiled over the camp site, among the tents and under the trees. This was a night, he felt with a strong purpose, containing hidden things.

With the delicacy of a Christmas Day bather he let the impressions of this place crowd in. The tents, the dig, the red convertible, Saintsbury and Harriet ... Yes, yes ... And? And what else? Nothing else? Nothing ... No hazy stirrings of another memory, no vague presentiments of other faces and other names, no imposed visions from the mind of a Viking long dead? No ... nothing ... nothing ...

Had he then failed? He could not believe that, would not, his idea must prove itself. More lay at stake here than appeared on the surface to a casual observer. No one on the dig at Leaf Cove could now be a casual observer, and that made it that much worse. He must achieve a breakthrough!

Slowly he walked through the sleeping camp in that iron and diamond light, brooding, thinking back, conscious of old days and old times, the past a living garment clothing his present thoughts. All those thoughts were of Harry Hudson's mind; he alone their begetter. He saw his own past with limned clarity, precise, defined, frightening in its untrimmed revelation of events his mental censor had mercifully deleted. But through it all the macabre desire to experience another person's thoughts within his own head prised his attention free. Himself—yes!—engrossing—but

this other dead Viking, this man of the past—how much more fabulously compelling!

Passing at random in his aimless walk the tent of Saintsbury he was tempted to stop by for a talk. The professor had promised to waken him; evidently the effect of the drugs had worn off sooner than anticipated. But he moved on, engrossed in prying back in his mind, until a low murmur of voices arrested him. He looked down, but not quickly enough, and his foot entangled in a guy rope. Falling heavily he brought a tent billowing down around him.

He had tumbled down Harriet's tent!

What an oaf! How she would relish the opportunity to castigate him now . . . He scrambled furiously up, dashing his hair from his eyes. Professor Saintsbury, naked, lumbered up before him, breathing hard, pettishly punching at folds of tent canvas, cursing with a footballer's invective.

Harriet, one hand to her breast, the other to her mouth, cowered back on her camp bed mattress, her dark hair flowing.

'It's Harry!' she squeaked, wide eyed.

'Harriet . . .' said Hudson.

She grabbed a scrap of clothing and covered herself up. 'Well, Harry? You don't own me! Now for heaven's sake put this tent up! It may be the height of summer but I'm chilly!'

'Yes, Harriet——' And Hudson and the professor between them, a not overly amiable partnership—re-erected the tent.

Until it was done she fumed, 'Nitwit! Clod! Pulling a girl's tent down around her ears——' and much more.

Then, 'All right, Harry! Now you can clear off and go to bed! And don't come prowling around here again!'

He went. He felt anger, of course, anger that Harriet should bother herself about a man like Saintsbury. But, most of all, he felt hurt resentment that neither had asked him how he felt, about the experiment, if he had remembered anything at all of another man's life.

They did not damn well care.

That had been evident a long time. They had consented to his wishes only so that they could—well, whatever else happened, he had had his way and the experiment had been performed. Now all that was left him was waiting.

He knew what was said about waiting. He, personally, proved they were right all the rest of that night and during the strained breakfast period that followed.

Harriet had to return to the city in the afternoon. Saintsbury, black-browed and bear-surly, announced his intention of going with her. The dig, he said fretfully, had palled on him for a spell. He needed the city to pep him up.

To Hudson's surprise, Harriet said: 'You'd better drive, Harry. After last night I feel soul weary.' Hudson was in no mood to appreciate the attempt at humour. He grasped the wheel with a savage compunction for the car.

He drove. Saintsbury and Harriet snuggled down in the back. He could see parts of them in the mirror; they meant to enjoy the ride back to the city.

White concrete road ahead of him, like an unwinding tightrope he must travel endlessly, the precarious balance of an abandoned enthusiasm alone his guide and mentor, Hudson forced the car back to civilisation.

He knew well enough how the others regarded him—that ninny Hudson, Harry the jerk—and that would have been nominally bearable, a burden with which he could have happily learned to live, hibernating: but the reality was far worse, for he knew dourly he didn't give a damn what the others thought of him. That was what made it all so horrific; he couldn't have cared less how they regarded him. He had his own life cut out, and fulfilling that took up all his energies and planning. As a loner, he knew they could all drop dead.

He hammered the car around a bend and fought the snakes out of the steering column. The sun was beginning to lay shadows spikily across the road. Dust plumed.

'Haul up at Andy's,' Harriet called.

'We've only just started——'

'Don't argue, dear boy! Just do as I ask you!'

'Oh!'

A staccato clattering as of a giant belabouring iron railings with a steel stick ricocheted up the road behind them. In a howl and a shriek and a rush of dusty wind, a group of motor cyclists jockeyed past. They cut patterns in the sunshine and shadow, weaving, riding rubber tyres like cloud-borne chariots. Hudson glared angrily at their departing backs.

A window opened in his mind.

Across the level clearings between the forest and the encampment they came, silent of moccasin and deadly of tomahawk. Fire and smoke, blood and scattered brains, the rip of scalp and the scream of dying women and children, a cacaphony of remembered sights and sounds and smells, scorched through that opening window into Hudson's mind.

The window closed and he was driving a red convertible in a smothering dusty skid into the lot outside Andy's.

'What the hell's got into you, Harry?'

'Harry—call yourself a driver!'

He got out and stood with shaking knees clutching the car. He thought his face must look green.

'Harry! What's the matter?'

'The Skraelings . . .' he managed to say, his lips stiff and bloated.

'Get him inside, Harriet—the guy's going loco.'

'No!' He spoke quickly, impatient with their sluggish understanding. 'I—a vision, call it what you like, a memory—I had a memory——'

'The Viking.'

'Yes. It hit me unexpectedly. Just a sunlit level expanse and the Indians racing for the encampment—the Northman's name was Ozuur Thorgeirsson . . . There's nothing there now . . . Just me, just Harry Hudson . . .'

Saintsbury looked at him with those agate eyes hard and suspicious. 'If you're pulling a fast one——'

'He's not, he's not!' Harriet pulled Hudson along to the restaurant. 'Can't you see the state he's in! Anyway, he doesn't have the sort of brain to fake anything.'

A blue haze enveloped the objects in Hudson's view so that he walked like a man scaling insubstantial clouds, a muzzy ringing in his head, doleful and mysterious, pained him. He'd been struck shrewdly by that vision—no, not vision, by that memory from the mind of Ozuur Thorgeirsson. The cataclysmic abruptness of it had threatened the sanity of his own mind. He had thought of that problem and felt he could guard against it. That had been during the comfortable planning stages; now that he had experienced one memory and could expect more, he saw clearly what a fool he had been to meddle in this kind of mental business.

Ancient memories of days of sunlight long ago waited in the depths of his brain cells to recreate the images and scenes, the faces and the sounds, to pull the past into his own mind, or to drag his consciousness back into the past. He held tightly to Harriet's arm and she patted his bunched hand, brightly saying: 'You have a quick drink, Harry, then you'll feel better. I must say I'm pleased it worked.'

'It—it worked all right.'

For Hudson the interior of Andy's might have remained the same as when he was last here. The skid kids, brash in their leather jackets, roughing up a young man and his girl in a booth. Saintsbury said: 'Oh, oh! I don't want any trouble. We'd better leave . . .'

The young man said: 'You'd better clear off! I——'

They didn't hear what he was going to say, for one leather-clad arm extended like a hosepipe, and a spread of fingers over lip and nose and eye thrust him back into his seat. The girl screamed. Some glasses smashed. People rose to see. The barkeep had vanished.

Hudson saw the feathers and the swastikas and the fierce brown faces painted on the leather jackets—*he* saw them, but so did Ozuur. Sunlight slanted down on bloodied tomahawk. Smoke drifted flatly, smelling of burning grease. A child ran—arms and legs jerking . . .

Screaming war cries the Skraelings butchered and raped the Viking settlement. They hurled their charm-wrapped stones, their spears, their tomahawks—and the shield wall

could not extend to cover everyone . . . The red bodies broke through . . . Ozuur saw it all—*again* . . .

With a single sharp cry Hudson snatched up a Coke bottle and brought it down with full force on the head of the motor cyclist who was attempting to roughhouse the girl. Two other cyclists jumped in. Hudson took their collars and smashed their heads together. He began to chant a weird mind-congealing war cry, replete with Odins and Freyas and strange and shivery names; Valhalla.

Pandemonium raged in the restaurant. When at last the police arrived half a dozen badly-knocked-about young would-be tearaways in torn black leathers lay on the stoop outside, and Hudson was licking skinned knuckles.

The police sergeant blinked his eyes. He watched as the would-be young thugs were manhandled away. 'Well?'

'I've never seen anything like it.' The girl babbled, between pats with a bloodied handkerchief to her boy-friend's mouth. 'Nothing! He——'

'He just took 'em apart!' put in an admiring bystander.

'Yes, well——' said Hudson. A strange ambivalence of vision persisted. The camp lay smouldering, little flames hissing and flickering over the last logs, a dead child sprawled indecently, a shattered long sword, a riven shield. His angle of view showed him his eyes were near the ground. He could not feel any sensation from his head. Werle and Ulric and the others would come back from their faring inland; they should not have sent so many, the Skraelings spared no one and nothing . . . The Skraelings . . . This land had been theirs; but the Norsemen were coming, they were coming, from Greenland, from Iceland, from the far fjords of Norway and the islands of Sweden . . .

For Harry Hudson the death he was experiencing transcended every other experience and emotion he had ever known. He forced himself to remember he was Harry Hudson. If for a moment wild frenzies had driven him into beating up a few moronic leather-clad youngsters, that moment had passed.

Ozuur Thorgeirsson might not agree with that . . . but . . .

'Well, that's over then,' Professor Saintsbury, smiling lubriciously, sidled up. 'Come along, Harriet, my dear. I think we can trust Harry to drive again . . . yes?'

The police sergeant had taken statements and was now chivvying people away. Saintsbury stood there, one hand on the door of the red convertible, smiling knowingly at Harriet Milsom.

Harry Hudson walked across and punched the professor clean on the nose.

'That,' he said as he had once spoken to Thorfin Hernulfsson over the flaxen-haired Gudveig, 'is to remind you to keep your paws off my girl.'

'Harry!' gasped Harriet.

'And you—you're sitting in the back seat with me. Saintsbury can drive.'

He had no thought of a refusal and, after a strained and momentarily awkward movement, the others seemed to acquiesce in his own determination. He had expected nothing less. Bjarni, even, one Northman renowned for determination, thought twice about crossing Ozuur Thorgeirsson.

He was beginning to grasp this later age nicely. The man Hudson had a body of which something could be made. All that was necessary now was to continue as he meant to go on. Passing strange, by Odin, that a man should have a second chance at life; but no faring Northman worth the name would refuse it!

All Hudson's memories were at his disposal, ranked neatly like rowers on the benches, and he could see there would have to be changes made. No Northman who had breasted the white-foaming seas would suffer himself to be treated like a dog. He stroked his naked chin.

A strange second life; but, by Odin, he would enjoy it!

CRITICAL PATH

by

DAVID COLES

On a long star voyage it would be logical to pair a male–female team for routine spells of duty while the majority slept in deep freeze—but illogical to have an uneven number . . .

CRITICAL PATH

RICHARD was completing the last task before going into deep sleep—packing and tidying the cabin's appointments. For five months the ten by ten by eight space had been his home; now, as always, he was surprised by the amount of rubbish accumulated during the duty period. It seemed impossible within the confines of a small starship.

He finished packing his own belongings in the small case and carried it out to his personal locker. They would remain locked in the cupboard during his sleep until he was next awakened for duty.

Norman, the other on-duty crew member had finished his clean-up operations and stowed his gear, he was reading the small display panel which conveyed messages from the computer. The display now held information about the duration of the coming sleep period and the crew member scheduled to be on duty with each of them next awakening.

'Lucky fellow—you're up with Susan next time,' said Norman. Richard nodded. He'd been on duty with Susan before, some ten years ago.

The ship's computer selected the on-duty crew on a random basis; notifying the two out-going crew just before their sleep period. This allowed any complaints to be made and a new selection to be made if necessary.

Complaints were few. Even with the petty annoyances which most human beings provoke, five months is not unendurable. Five months was the minimum period allowed between deep sleep sessions—it allowed the body to re-accustom itself to living. For similar reasons, the interval of deep sleep could not be longer than some five years except in emergencies.

During the past five months Richard had grown to dislike his crewing partner. There was no open hostility, but Norman's petty attention to detail, his habitual neatness and other quirks of personality had been enough to annoy Richard, the more lackadaisical of the two. Informality tended to run high among starship crews, most members wore only the lightest of clothing but Norman affected a pair of nattily pressed shorts with creases like knife edges and a continually clean vest. The elegance contrasted rather heavily with the only garment which Richard wore—a less than sartorial pair of drill shorts.

Richard sighed; a few more minutes and he wouldn't see his partner for—months.

'Say, I forgot to check how long I'd be in deep sleep.'

'Twenty-four months,' said Norman, in near anticipation of Richard's questions. Another irksome habit. The other was too good, his body too near perfection, his mind too poised and alert. With luck, however, the two might never share the same duty again.

Together they entered the control room to check the instruments. Norman tapped the series of buttons which, one by one, consigned the ship's many instruments and mechanisms to the control of its computer. After an unknown period of time two more crew members would be roused for a minimum of five months duty to take over from the machine-mind of the ship.

Each signed his name with light pencil on the log screen and added the time and the date.

'Twenty-two years, eleven months and a handful of days,' said Norman in the tone of someone making conversation for the sake of appearances. 'Another thirty some years and we'll be there.'

'And six months of hard labour and back the quick way.'

It took all of six months hard and sometimes dangerous work to set up a matter transceiver and the necessary power supply. Sending a complete transceiver would, of course, have been much faster, but because of the size and

mass, prohibitively expensive. Instead, only the complex, precision-built circuits were taken on the ship; framework, housing and power supply were variously scavenged from the ship or made from locally available supplies.

The two men left the control room and walked down the short stainless-steel corridor to the deep sleep chamber. The alternating intervals of duty and catatonic sleep would not be needed for the return trip. When the first jury-rigged transceiver had been built and tuned, Earth would be just a step beyond the threshold. A bevy of technicians would return bringing full equipment and prefabricated parts to build a new and permanent installation.

Homesteading was just around the corner.

The deep sleep chamber was chilly on their bare skins, the air redolent with the faintly pungent odour of the life-support fluid. There were seven sleep tanks, five of them holding still, white, almost-dead forms immersed in heavy oily liquid. Resiliant buffers held the bodies against shocks and a maze of tiny wires and tubes ending in slim needles were inserted into the near-corpses, metering, measuring, sustaining the last feeble flicker of life against the day of resurrection.

Four men and three girls on their way to the stars.

The pair, stripped and gleaming from the shower, climbed into their highly custom-built tanks. Transparent covers descended, bonds of pliable plastic restricted movement.

Richard felt a brief spark of pain as over a hundred slivers of stainless steel lanced into different parts of his body. Some bit deep into the main nerve trunks, others into blood vessels, the lymphatic system, digestive tract. He felt cold, drousy, death but a heart beat away. But the heart beat never came, that vital muscle was stilled and death cheated. Mental oblivion came more slowly; it took long seconds for the electrical energy to die away and for the last shreds of conscious thought to dim.

'Funny number—seven.' The thought congealed to a

memory, hanging like a mutilated cobweb. 'Why not eight? Or six?'

He swam up through murky depths, striving towards the lighter regions far above. At last he burst the tight meniscus of consciousness, gaining thought but lacking mobility. His state couldn't be called full life, merely a parting of his death's veil.

The life support medium still surrounded him, its viscous depths blurring vision, cloaking stimuli. Sound carried through the liquid; straining, he could hear voices, see blurred forms above him.

'But we must. We should wake the human.'

'I tell you we can handle the situation. You should have consulted with me before . . .'

Who were they? These vague shapes that called him human? Had aliens penetrated the ship?

There was a sudden motion from one of the dark forms. Needles stung his flesh and he felt himself sinking once more into Lethe's still water. Words still reverberated through his emptying skull.

'We should wake the Human.

wake the Human . . .

and echoed on:

the HUMAN, MAN, MAN MA . . .'

The sounds, amplified in the emptiness of his psyche, followed him down the vortex to oblivion.

Light again.

'Good.'

A sound, a trickle, a gurgle.

Feeling returning.

He was cold.

Who was he? Richard, um, Richard—Sammes. Twenty three years subjective, about fifty years old objectively.

Heat flared gently on his skin. His eyes opened.

Where was he? On board the starship *Spectre*.

He was alive again. Wasn't he?

A face framed in a honey-coloured halo smiled at him. Beautiful, angelic; fleetingly he wondered if he'd crossed the narrow border to death.

Yes, he was alive.

'Hi,' greeted Susan.

'Hello, Sue.' He smiled weakly.

'Be back in five minutes.' And the head was gone from his cone of vision. The corona of blonde hair had shielded him from the harsh glare of fluorescents, now they struck down.

He closed his eyes against the painful brilliance and relaxed as the radiant heaters struggled against the cold deep within his body, raising his temperature to a more normal 310 degrees Kelvin.

A few minutes later he got out of the now dry tank, went to the shower booth on shaky legs. When the hot, needle-sharp jets of water had cleansed the last of the sticky liquid from his skin, he lay in the grip of a massaging machine, enduring the almost pleasantly painful tingle of newly circulating blood.

By the time Richard was suffering only a slight attack of pins and needles he was dressing and feeling almost human again. The quick, unconsciously voiced thought triggered a half-remembered recollection which caused him to inspect the curiously paired punctures of the life system's needles.

'Why two of each?' The memory nagged but refused to come into the open. Richard shrugged and forgot it. It would be back for examination if it was important enough.

Susan returned and all else was forgotten.

'Hurry up, lunch is ready.'

He felt saliva run in his mouth.

'Lunch? How long have you been up?'

'A couple of hours—I had to make myself presentable.'

Richard grinned and made no answer. He remembered that it had happened the last time they had been on duty together. The next few months should be pleasant ones indeed.

He went to the control room, signed his name, noted the time and date on the log screen and pressed the review button.

Twenty-three years, seven months. Heavy debris, damage to antennae. Manual replacement.

It was the only entry of note.

He left and went on to the living quarters.

'Which cabin have you got?'

'A.'

'Okay, I'll just dump my things.'

He slid back the door to 'B' cabin, tossed his bag on to the bunk. On an impulse he slid the door to 'A' cabin ajar and poked his head in. Both cabins were, in fact, identical, but somehow Susan's seemed different. Different from 'B', different from the time he'd been in 'A'. There was already the stamp of the girl's personality, her character, in the way the covers were drawn up, the few trinkets displayed; something indefinable.

'I was in the kitchen, not the bedroom.' The whisper sounded close to his ear.

Richard jumped and Susan laughed.

'Snooper.'

He coloured. 'Sorry, I was just looking to see how you had it fixed. I was in "A" last time.'

'I didn't mean anything, really. I'll swap if you like, no trouble.'

'Nonsense. It doesn't matter. Now, where's the food?' He blustered.

'On the table—getting cold. After I've slaved over a hot cooker all this time.'

Susan's hot cooker consisted of a sixty second microwave grill but Richard took the admonishment meekly and sat down to his first meal in two years.

At last, he sat back wiping his mouth on a napkin.

'Great!'

'I thought you were never going to stop.'

He looked his partner over while she finished her own food. She'd certainly used her two hour lead to good effect.

The fair hair framed an oval face set with emerald eyes and white teeth. A tiny blemish above her right eye accentuated her beauty rather than detracted from it. She was tall, approaching his own two metres and some centimetres; trimly figured, graceful of movement. Yes, the next five months or so could be very pleasant.

Susan looked, catching the tail end of his appraisal, and blushed becomingly.

'Coffee?' he asked, not attempting to cloak his admiration.

'I'll get it.'

'No, no. Sit down, you've hardly finished; besides you've been slaving over a hot cooker.'

Susan giggled and Richard got up to switch on the percolator, standing by the kitchenette as it warmed.

He sat down again and poured the coffee, adding sugar and cream. Susan seemed too feminine for this kind of a job, he thought. To Richard, it seemed that she should have been the horsey type; tweeds and brogues and long country walks type. Not for the lissom Susan the trail blazing to the stars, labouring to build a matter transceiver. Still, the selectors must have known what they were doing, nearly thirty years ago. He knew the brain behind those green eyes, knew that it was as sharp and as neat as the face in front.

'Now, just stop looking at me like that. I feel like a butterfly on a pin—and there's work to do. First.'

'Sorry,' Richard lied. 'I wasn't focusing.' And the extra word after Susan's last sentence turned on a tap somewhere in his endocrine system.

The work which had to be done was the only real work, saving emergencies, that had to be done during the on-duty period and Richard suspected that it was work for the sake of filling time—all of it could easily have been done by the ship computer.

First there was the guidance system to check, the new antennae, navigation sightings, dead reckoning checks, real progress against computed. And so on and so on.

They made tea and took it into the lounge. As he ate, Richard thought about the *Spectre*'s set-up again.

A task force of seven. Why seven? Why an odd number? What if there were an accident, something went wrong? Drives could malfunction, it would mean a crash landing on an unknown world. Even a bad planetfall on Halvar might mean damaged control circuits for the transceiver and, consequently, no return. These were the risks which they all undertook willingly but they were human beings, mammals, killer animals. There'd be pairing off and the number seven would lead to trouble. There might be trouble anyway, six months to go in building the transfer unit—more than enough time to spark off acrimony, fights to establish a pecking order and rights to the women.

Wait now. Perhaps that was the purpose. Bring things to a head quickly, sort out the boss and the bossed. On previous jobs trouble had arrived sooner or later, in spite of evenly divided sexes.

A crash of chords interrupted his chain of thought, Susan had turned up the player to full volume and Greig burst into the room with a finality which put an end to his reverie.

'I thought that that might rouse you. I can't have a taciturn man on my hands the first day.'

Man? MAN, HUMAN, WAKE THE HUMAN.

The memory merged with musical chords and was lost again.

'You're quite right, young lady. Come over here and let's listen.'

The quieter second movement of the concerto, reminiscent of springtime rain and breezes brought the two closer. Susan's head on his shoulder, Richard imagined wide lakes and skittering cat's paws of wind. Leaves waving in tune to the french horns, slow pools of rain gathering on leaves and falling with the piano solo.

When the recording had finished, Richard switched on the view screen and dialled tapes on Halvar, their destination. The tapes were now over a century out of date but the

world would not have changed. They showed scenes of a colder world than Earth, a world made up, for the most part, of savage blizzards and blinding snow fields. Orbiting well within the usual single astronomical unit of a star younger and cooler than Sol, the grip of winter relaxed only within the tropics. Between those imaginary lines; spring, a short lived summer, a brown autumn and a long mild winter paraded. Reminiscent of Scandinavia, the country held fertile regions within deep gorges glacier-cut into hard bedrock. Sparkling streams leapt and cascaded from high-perched hanging valleys into a spring of brilliant flowers. Rivers to be fished, reindeer to tame, timber for houses—an unspoilt home.

'This is a place I could settle to,' whispered Susan.

'Let's smash the transceiver circuits.'

The momentary squeeze of a slim hand spoke volumes. But there were seven of them.

Considering the fact that scenic splendour and beauty had not been the criteria used by the robot probes, the tapes hinted a general magnificence, an imagined splendour that could only be guessed at. These pictures were only of the kindliest most hospitable regions, chosen for survival.

Richard leaned back and stretched.

'Coffee?'

'And brandy.'

'Oh, naturally.'

On the way back with the laden tray, his foot caught the edge of a rug and he overbalanced sending the tray and its contents across the room. He fell heavily, awkwardly, the stainless steel floor seemed to come up to him in slow motion before thumping him soundly on the forehead and splitting a lip against a tooth.

He went out like a snuffed candle.

When he came to, Richard was in his bunk, his face stiff with sticking plaster and bruises. Susan must have lugged him into the cabin and tucked him up—tough girl. He fingered his swollen face. Tougher than she looked.

Susan entered then, carrying a fresh cup of coffee.

'Your coffee, sir; better late than never.'

'Thanks.'

'And next time, just wait till you get sat down before tackling the brandy—I thought you could take it.'

'I'll remember that.' He gasped. 'God this coffee's hot.'

He swallowed some more.

'I'm a clumsy idiot. Thanks for cleaning my face up. You didn't strain anything, lifting me in here?'

She flexed her arm as if expecting a bulging biceps to pop up.

'I've given you a shot of metabol, you get off to sleep now.' She brushed his wounded lips with her own.

'That'll stop any capers for tonight, anyway.'

'Spoil sport.'

The next ship morning, he felt fine. The contusion and cut lip had healed rapidly under the influence of the metabol which was designed to speed the body's healing powers. Only a slight soreness and stiffness remained.

Entering the kitchenette after a shower, he was pleased to find himself up first.

'Coffee—breakfast—roast—and crispy bacon for two.'

Days wandered by pleasantly. The ship managed itself with only the minimum of human intervention. The off-duty crew continued to almost-die peacefully and the parsecs of empty space hurtled by at a velocity which only just broke the old Einsteinian laws.

One late ship afternoon found the crew relaxing in the lounge. Albinoni's eighteenth century Adagio lent a sonorous rhythm to the atmosphere.

'I wonder why they send humans out on this sort of work? Why not robots? They could set up a transceiver easily enough. No deep sleep facilities needed either.'

Susan looked up sharply and then laid her head back on Richard's shoulder.

'Survival of the species,' she answered in an oddly bitter tone. 'Shipwreck, transceiver failure—it happens. At least we'd—there'd be an outpost of human beings on Halvar or

wherever. There's enough genetic material in the stores to impregnate an army of women. Let alone—three.'

Richard realised he'd touched a hidden sensibility and dialled a view of the outside star field in an effort to change the subject. He cradled Susan's head more gently. Her body, stiff with the unknown emotion, relaxed gradually into his arms.

'Androids are nearly human, you know. Just because their nerves are drawn gold and their brains grown from synthetic neural tissue—they're sentient creatures.'

Richard knew of other differences but was willing to concede that they lived.

'It's only because they can't, can't have . . .' She paused, picking a clinical rather than human term. 'Can't reproduce. That's why they send human people on these trips.'

There was the barest lurch in the deck beneath them. The ship had altered course to annul a collision risk. The acceleration involved had been too fast for the internal grav fields to make complete compensation.

The ship computer performed a continual delicate balancing act between speed and safety. An instantaneous network analysis of the space ahead; computing an optimum route, a critical path through the random obstructions.

Another lurch threw Susan's weight on to Richard in a flurry of frills and bare arms and legs.

He took advantage of the situation.

At velocities above cee, nominally empty space could become pretty congested at times. That path could become very critical.

The deck heaved beneath them, and again china and cutlery smashed to the floor with sharp fragments caroming about like shrapnel. The couple reluctantly disentangled, it was too dangerous at the moment. The incident could be serious and although they could not aid the computer in its split nano-second decisions, the control room might be the best place.

They made the control room unsteadily in the shifting

pseudo-grav fields. More and more shifts in the grav field's direction betokened faster and tighter manoeuvring by the ship computer.

Richard's inner ear mechanisms were sending violently contradictory messages to his brain. A longer and more than usually vicious jerk sent him sliding across the floor, now at a forty degree tilt to the usual 'up' or 'down'. He felt his arm snap and involuntarily yelled with pain. Within instants, Susan was with him, a slim arm about his waist pinioning him to her taut body. She practically carried him to a control chair across the yawning and pitching deck and laced the safety straps across him.

'Arm's broken—left one.'

She strapped the useless limb to the chair arm and fought her way across to the piloting console.

The pain was soon replaced by a blessed numbness and Richard thankfully let the safety harness take his weight as he watched Susan daintily punching buttons on the damaged board. She looked so out of place against the starkly functional instruments that Richard had to smile at the picture.

The smile died; the girl had been hurt, her blouse had been ripped away exposing a long, deep ugly cut across her shoulder.

But it wasn't a cut. The right word was 'tear'. He followed the line of the tear; starting below her right ear, down her neck and across the collar bone, down across the left breast—all without a trace of blood.

Richard turned his head away, watching covertly from the corner of his eye. The emergency died, he felt her concentration ebb, saw her become aware of her injuries—damage; noticed her quick glance in his direction.

She turned away from him.

'I'll get a cast for that arm. Are you in much pain?'

'No, it's gone numb now.'

Poor little human, he imagined her—it—thinking, so frail.

She was away longer than necessary to get a medikit. When she reappeared, a fresh blouse had replaced the torn

one. She bent over him, administering a shot of pain killer, unstrapping the broken arm. Deft fingers explored the break, righted the broken bone and sprayed a quick setting cast. Richard touched the girl's neck with his right hand. Where the cut had been the artificial flesh was warm and whole. He stroked his fingers along the smooth, smooth pseudo-flesh beneath her blouse; no cut, no abrasion, and yet he'd seen it.

She looked up and smiled, then bent to administer a dose of metabol.

'You'd better go easy on this stuff from now on. Someone else may need a drop.'

Richard bared his teeth in an attempted grin.

Not you, you bitch. He voiced to himself.

She half helped, half carried him to his cabin over the now stable floor. She helped him undress, cutting the shirt away from his broken arm.

A sedative sent him to sleep.

Sometime later he awoke from a fitful doze with a sense of wrongness. The bulkhead clock indicated one o'clock in the ship's morning. There were low voices from the kitchenette and the clink of china. One voice belonged to Susan; another was Roger's and a third, Norman's.

He listened intently but could make out nothing. Stiffly, he stretched out a hand and eased open the door.

'No, everything will be all right now, his arm will have knitted in a few days. You get back to the tank room and de-activate; I'll go to bed. We don't want Richard to see us all up and about.'

But he had, or at least, heard them, which was as good. And memory flooded back—the voices in his last sleep period.

'MAN—WAKE THE HUMAN.'

Now he knew. Now he knew why there were only seven. No doubt he would have been told on Halvar in the normal course of events, that he was the only human aboard. The one real human being, the one real live entity among a load of wire and string copies!

Richard lay back and watched the minute hand trace out a complete circle round the illuminated clock face. His arm was throbbing violently and he could not have slept in any case. The minute hand followed another quarter of its allotted locus and then he gingerly got out of bed.

He felt a little dizzy. 'Nearly human,' she had said. Richard's anger seethed. No wonder she'd been so vehement about androids, she had a vested interest.

Silently he opened the door, walking in bare feet. He carried a wicked hunting knife he'd taken from his personal locker. He stole across the cold floor of the control room and gained the corridor to the deep sleep chamber. He stopped at the threshold and looked around him. Immediately to his left, Norman lay beneath the transparent cover. The too, too carefully modelled Norman. Using the knife as a lever, Richard prised the lid off the life support system. The inspection cover should have held a slave computer and interface units.

It was empty.

He'd seen the inside of his own several times, hundreds of wires and tiny tubes should have led from the metering devices into the tank. These would control the Ph, the ion balance and dozens of closely linked and interdependent variables of the life support fluid and the occupant's body.

But Norman's tank had no such metering devices. An android didn't need them, he merely died a total but temporary death; a shock administered to the artificial heart's pacemaker was all that was needed to wake him, but till that shock . . .

Richard looked down at the still figure. The upper arms, the chest and thighs were covered in goose pimples now frozen into place by the sub-zero temperature. This was only a facsimile of a human being. A likeness, a machine, not alive in the same way that he, Richard, was alive.

Hesitantly, expecting the still form to suddenly awake, Richard lifted the cover, touched the android's chest with his knife. He applied pressure and watched in fascination as the point broke through the now brittle plastic sheath. He

drew the blade downward across the thorax and the plastic broke and peeled back. Beneath the surface of the sham life support liquid stainless steel ribs were exposed. Bubbles of air pushed their way out of the chest cavity and burst sluggishly on the liquid's surface.

The next tank was empty, it was his own.

The one after that was Christine's.

Off came the cap of the metering unit, empty, a shell, a fake like the sleeping form within the clear cover.

He sent the knife edge across the back of her still white hand. The 'skin' stretched away from the cut revealing the metallic bone structure, the steel cord tendons.

Clive: gold wires gleamed at their cut ends under the razor edge.

Richard felt a kind of God-like power over these inferior creatures; these fabrications that men like himself had made.

Roger: a charged capacitor shorted across the blade leaving a nick in the cutting edge.

And Richard knelt and wept in front of Rosanna's tank. So perfect, such an exact copy. He could see the golden down of hairs on the forearms, the tiny whorls of carefully sculpted fingerprints. This girl he'd never known in space, never met the robot after the initial briefing session. The computer had never matched them for duty; now, it never would complete the charade.

The long thin, razor edged weapon sighed into a long cut. From throat to waist, cutting through the rounded breast, laying bare the metallic rib cage, the heartless heart.

'God, what a joke. An eternity from Earth, no one but me and a bunch of zombies.'

But the flesh wasn't artfully padded plastic. Given time, a real heart would have beaten beneath the mutilated breast. Belatedly, Richard remembered the seed bank which the ship carried—enough to impregnate an army of women, Susan had said.

The thick cold liquid was becoming tinged with a turgid

flow of red blood. Human blood, seeping from the awful wound.

Richard didn't know that he could scream so loud. He was still screaming when Susan came.

THE DISCONTENT CONTINGENCY

by

VINCENT KING

Benevolent Big Brother can be just as big a tyrant as his Orwellian counterpart. Life under the influence of a Happiness Generator could be a strong deterrent to progress of any kind.

THE DISCONTENT CONTINGENCY

X KNEW he had to find the pliers. He'd seen some, he could remember seeing some somewhere. Perhaps a Dealer—he'd forgotten but it didn't matter, X knew he'd find some, it was necessary. All the time he knew he'd get some somewhere.

It was the Curator's fault. The Curator put X on to it, on to that Luger. It was the Curator's own fault.

The day it started X was wandering aimlessly, passing time in the Weapon's Hall. He moved between the inlaid crossbows—those damascene swords, all patterns and tassels, the glinting beauty, he passed there, admiring the workmanship, all the past excellences. Somehow it was familiar, it was *right* for him. Perhaps, he thought, perhaps there was something concealed there for him, some meaning if only he could find it.

'Let me show you these . . .' The Curator was an old man. He had fine grey hair that was combed as if every hair was counted. His moustache was clipped and even, not like the fashion. His eyes were sharp blue. He was perfect, clean and polished, not for use, but like a toy—like one of the soldiers they used to have, or the picture of an astronaut. X could hardly believe that the Curator had spoken to him, he wondered if the old man combed his eyebrows and why he had not seen him before.

The Curator led him to the pistols. X followed down long silent corridors between the great cases, past whispering holiday trippers in their gaudy clothes. The Curator ignored them, X could tell he was being taken somewhere important.

He took X through them all, showed him the engraved barrels, the wheel locks and flint locks, he explained the

coming of percussion caps and the rifling of barrels, what proof marks were and the changing shape of bullets, the making of smokeless powders. Last of all he showed X the case with the Luger.

Something in the shape—even on that first day there was a great significance there for X. That tapered barrel, the machined perfection of blued steel, the sculptured quality that was there. It was like a heavy snake, there on the pink velvet, coiled and resting, only waiting for a hand to make it live again.

The first time X was content to stare. To take in the shapes of the mechanism, to look at the checkering on the grips, to admire that fat butt. Through the weeks he returned every day, the Curator always talked to him, told him all about the Luger. X could hear the excitement in his voice. It was tremendous to know a man like that, out of all the others, a man that was excited and really knew about things. Once the Curator came so quickly from his lunch that there were still crumbs on his moustache and X had to smile as he listened to the words he spoke.

'Pistole Parabellum Model 1900 . . .' the Curator indicated the case. 'Pistol for war . . . Borcharte-Luger Parabellum . . . that was the first one. A *service* weapon, as they used to say. Not a toy for range practice. A barrel length of four and five-eighths inches in the standard model—7·65 mm calibre, eight-round magazine, weighed one pound thirteen ounces . . .'

'Why?' said X. 'There were later designs. Tell me what makes it so good?'

'A *natural* weapon, the most famous in its time. The weight in the right place, wieldy, wonderful, instinctive pointing. With it you shot where you looked. No tools to take it down, the only screws held the butt plates . . . and the firing pin.

'Quality. Real *quality*. Early twentieth-century engineering at its finest, a great example of their art. On firing the toggle-joint lever mechanism is locked while the bullet is in the barrel—no gases wasted. You see, the used case was

ejected and a fresh round brought into the barrel, the toggle locked and the weapon cocked and ready to fire again—an *automatic* pistol. Very powerful and effective.'

'Efficient . . .' murmured X. A fine thing beautiful—he recognised that. He could tell just by looking.

The Curator fell silent. He seemed lost in contemplation of the Luger and X could understand it. He had already begun to love the pistol, to want it for himself, to possess it.

He didn't ask himself why. At first it didn't matter, the Luger was just desirable—only a beautiful and well-made thing the reason he could talk to the Curator. Every day X hurried to look at the Luger and listen to his friend the Curator.

It was the Curator's fault. A gun was for killing—a pistol had that one purpose. Even antique guns were illegal, there were penalties for having any weapon. Even being too interested in something like the Luger might attract the attention of the Generator. As the days went by it got more risky to look at the pistol, but X found he had to go, he was fascinated and he went as often as he dared.

His obsession grew and X became more frightened. He would sidle down the corridors, devise new routes through the great Halls to reach the Luger. He scurried through there, looking anxiously in case the lenses began to move. If the Curator wasn't present X would only permit himself ten seconds in front of the pistol. Sometimes, when he was away from the Weapons Hall, he began to wonder where the weapon was leading him.

'There is only this one particular Luger left,' said the Curator. 'There is only this one 9-mm model, eight-inch barrel, exhibited here with the long holster and shoulder stock, the back sight set on the rear of the barrel, calibrated from one hundred to eight hundred metres . . .

'1914, the year of manufacture. 1914 AD in the old reckoning. The Long Barrelled Model. The stock fits on to the butt. Very accurate, meant for artillery men, machinegun crews, people like that who didn't want to be encumbered with

full-size rifles. No safety in the grip, the thumb catch only.' There was a cord that looped through the trigger guard and held the weapon on to its mount. Even as the Curator talked X was thinking that he would need pliers. Even then he had gone so far as thinking he would need to cut the cord.

It was mad and X knew it. But he always returned. He would look hungrily, saunter past the Luger, go on thirty yards to the London-made shot guns, then circle back to the magic case where the Luger lay. He seemed to spend his days creeping back to peep in at it.

Shot guns were all right, sporting guns were pretty in their way, but it was the hand guns, the rifled pistols that were the thing. They were for the big job, for killing men. To have that power in your hand! The thought turned X cold. The Luger had come to dominate his life, the sensuous appeal there, the *power*. It was the Curator's fault for showing him.

On the thirtieth day he gave in and decided he must have the Luger. The idea dominated his imagination, there was singing in his ears and the columns swayed and he knew that he would never be right until he had it in his hand.

He was leaving the Weapons Hall, blinking out into the sun down the broad white steps there. Pigeons scattered and clattered up against the distant trees, the hazy pink and cream mansions over there. It was beautiful and the music was lovely too, it always was like that in the nice part of the Capital.

X's head rocked, he slipped on the steps, he tried to watch the pigeons. He crossed the square and the Guards eyed him, he struggled to walk as if he'd never thought of the Luger.

One of the pigeons had separated from the flock and circled him as he moved towards the Barrier. X saw it and knew then that the Generator had seen him and that he was being watched. A man learned to notice things like that in the Capital. He realised that he dare not be near the Luger

again. Not the way he had been, not for a long time, perhaps not ever. It was like a kick in the stomach.

That was when X really decided he must have it. Perhaps he'd only been admiring it before. To have it—his hackles rose at the thought—to hold it! Even if it was only once and only for the few moments before the Guard came he must have it once before he died, he couldn't face the thought of not seeing it again. He had a feeling of destiny, that he had to have it whatever he chose to do. It was mad. All the time a part of his mind knew it was mad.

But the weapon meant so much to him. It was so much more than a cunningly shaped steel lump from ancient times. A weapon like that—it was from a time when men had really controlled their destiny, from before the Generator, from before any of the clever machines.

In these days the Generator did everything. Men didn't decide, men were trapped in an eternal holiday. X thought bitterly how humanity had been usurped and how most people didn't care.

But the Luger—the *Luger*! A man loaded it. A man jacked the first round up into the breech . . . you *decided* where that spinning bullet would strike and when! The pistol was a comfort to X, it had controls. A man decided what it would do. It was *power*!

X passed through the Barrier. There were other things there, he blundered down a row of aeroplanes, then there were the things called motor bicycles all arranged under their transparent domes. X went down the ramp and admired the machines as he passed. They were shaped for men, not the other way about. They were all from that wonderful free era before the Generator when things had been so good. In X's days you couldn't breathe without something measuring it.

X admired the machines on the Ramp, but it was the Luger that meant so much to him. He couldn't love a Spitfire to his chest. There were other things, but they were too big to steal. What he wanted was the Luger, that was the very essence of the good era. He knew he had to have

it, the Luger, and he had to have the pliers to cut it free.

He looked up and the pigeon flashed its single eye. When it saw him look up it dropped back and X was able to duck down an alley to his left. The Old Capital crowded right up to the Barrier and a man could really lose himself among the shambles of wooden huts and tenements that filled the once-broad streets.

X didn't head for his own place. The Generator would have that, the Guard would get him there for sure. There was cheering from down by the river. He knew he would be safer in the crowds so he went that way.

The shouting grew louder above the music. X would have to find a new place before the lights went out, a man didn't want to move about the Old Capital after dark. The Generator didn't like it for one thing and anyway someone would probably club you for what you had.

There were banners over the crowd's heads. X saw splendid costumes move above the people, great epaulets and splendid flowered hats. It was a cavalcade on a path above the river, horses still gave men stature, even in this late age. A man mounted could still kid himself he owned everything even if the race had sold out to the Generator. Even the President could sit up straight on a horse. X moved in the shadows, half seeing what went past.

It was the Generator that ruled, made the Capital what it was. X climbed steps, stood on a balcony there, looking down and thinking of the way things were and the individuality of the ancient Luger. He leaned on the balustrade, rust flaked off, fell on to the people. There were always crowds when the President rode by, but mostly the streets and alleys were empty and wet. There was always cheering when the processions went by, but X thought maybe it was really for the horses. They were splendid above the people, polished and magnificent, it was the men on them that meant nothing.

A black shiny Guard pointed his goggles up at X and waved him down into the crowd. X saw him take the projector off his pack and hurried down.

The World President himself went past. Perhaps five feet tall, but he wore high, golden heels and his horse was taller than the others. Blond hair, more gold there in the torque that twined through it, his make-up was artfully chosen to minimise the slightly bulbous nose and the watery blue eyes. His tunic was white and spangled with small green flowers, the President wore it loose above his skin-tight pants. He smiled all the time from the height of his still, plastic horse as the hovering platform brought him slowly along the river. He came so close that even through the distortions of the dome and masking gauze X could see the wrinkles on the age-marked face.

The procession went past and everybody cheered, X with the rest of them. It was the Generator he hated, not the President. Anyway, the dancers had been good and the music tremendous in that dark place.

The people closed in after the procession, followed it as it went down stream. X was left among the trampled flowers, watching the palm fronds turn slowly on the water as they drifted away. As the lights dimmed the sparkle of the ceremonial helmets disappeared over the grey people. It was almost funny how they liked the President. X was sure they really meant the cheering, he could see that they were disappointed to see the President go. Perhaps it was that he was a bright thing for them, a change—they enjoyed the pageantry, the illusion that at least one man was still high in the order of things.

'Come, *Quick!* This way!' There was a thin man in a long grey coat tugging at X's elbow. X put his face back into the shadows and looked at him. You had to be careful in the Old Capital.

'*Tools!*' The man leaned in close and hissed the word at X's ear. It was a Dealer.

• Tools were good. X had tried to buy tools before. They were beautiful too, truthful and strong, like the Luger. X took a chance and went with the Dealer.

It was only the criminals who wanted tools. Burglars, but they didn't have to do it, it was all in fun. Everything was

taken care of, people were all fed and given their pleasures. People didn't even have to live in the Old Capital, not in that decayed and dirty jungle, not since the Happiness Generator organised the world. Everybody could live what the Generator called 'a full life', except that there were always those who had to act free. That was why there were still criminals, men did those things for the danger, for the fear, to compete against the Guard and each other, against the Generator itself, so that they could have risk and depend on themselves.

In a way it was a mystery, a contrariness that even the Generator did not fully understand. The bloodymindedness of humanity; it was allowed for, there were laws and a thousand petty regulations for men to break and feel free.

It was why the Old Capital was dangerous. There was rape and murder there between the sparse lights, all the old crimes and the new ones too. Dangerous and dirty, the people diseased and depraved—and it was all a game that they played as if it was real, it was a game the Generator had invented for them. It was crazy, they died and cheated for their game but really they knew it was as false as the President.

X shook his head. Men had always been like that. That quality had put them where they were, brought them up from apes and caves. It was the Generator that had turned it sour when it made the Old Capital. X thought of the Luger and laughed at himself. That was crazy too, loving that thing, deciding to steal it. Everyone was as crazy as he was.

The Dealer pulled him into shadow where the lenses couldn't reach them. He shot narrow eyes right and left, then opened his coat so X could see the tools looped inside it.

'Pliers?' When the man spoke it was from the side of his mouth. He had some good things there. Two sorts of hammer, chisels too, and a saw. He dropped one side of his coat and showed X where the pliers were. One pair was really old, but the others were what X needed.

'See them,' X whispered and held out his hand. He'd seen pliers that had been fused closed to be legal.

'*Money*.' The grey man rubbed his fingers together. His eyes flicked left and right over X's shoulder. It was only fair. X handed over a small piece of platinum he had saved. The Dealer tried it with a cell and a meter and then passed over the pliers. The jaws were okay and so was the cutter. The cylinder was almost half charged. It would do.

'Five hundred,' said the Dealer.

X didn't argue. He paid and put the tool away. When he looked up the Dealer was smiling. He was happy, it wasn't the money, it was the act of trade that counted, the dealing in illegal things. X grinned, people all had their little games.

When the Dealer was gone X went back with the crowd through the darkness up the ramp to the Barrier. He wasn't being followed, it was easy, he could always lose surveillance in the Old Capital. The Generator didn't really mind what happened down there.

The steps up to the Weapons Hall looked clean. There was shade there under the trees and that was welcome in the clear glare of the sun. On the top step X turned and there was nothing unusual. There were only the bright milling people and the occasional Guard moving them on like some black, shiny sheep dog. Nobody even saw X.

He entered and padded silently down the space between the field guns. He loosened his neckpiece, passed old machineguns mounted on iron wheels, X knew them from before and they were on his way.

The tanks were good too. Solid things, steel, the early ones heavily riveted. Male and Female they were labelled—MkIV, Tiger and Centurian, Sherman and Stalin. X moved between the massive bulks, crouched under the lenses. He felt safer among the tanks, there was nothing that could see through *them*.

He saw himself reflected in long cases. He looked hot. Sweat ran on his forehead, his eyebrows, dribbled down his face but he still felt cold. He looked for people to avoid them but the place was empty. He scurried from case to

case, waiting in secret places, hiding from nobody. Tension made his shoulders ache, his heart was beating like a hammer and his eyes were full of tears. The sound of his breathing deafened him, as he drew near the beautiful Luger he began to hold his breath.

Then the Luger was in front of him and it filled all his vision. It was magic, it was all his mind, it was all his thought.

X got his hand on the case and stood flattened against its coolness while he controlled his shaking legs. A mile to the right, where the plasma guns started, a column of sunlight struck down and turned the floating dust to gold. X listened but he could only hear his heart. Even the music had stopped, it was as if the world was waiting for what he would do.

He pulled on his gloves. He had to remember to breathe. He swung his arm and smashed the case with the pliers. It took only two blows and that surprised him. The noise was terrible.

His hand closed on the Luger and he was suddenly amazed that he should have got so far. Somehow he hadn't expected it . . . it was as if he hadn't intended to really do it. The weight of the weapon surprised him too. Its hard touch. Its *reality*.

X pulled out the Luger as far as he could and closed the cutting part of the pliers on the cord. When he twisted and closed his hand the pressure hissed and the jaws clamped tight. It took three bites and the valve was wide open.

When the cord parted the pliers were exhausted. X dropped them and held the Luger in both hands. It was everything, it filled his world.

'STAND STILL!' X straightened slowly and put his hands up. It was the Curator's voice, familiar but full of disappointment. 'You had to have it—you had to *steal* it!'

X could see him in a hanging wedge of the broken case. He had a Guard projector and his old hands fumbled as he got out his communicator.

'A thief out of the Old Capital! I thought you were

something more. I thought I could call you my friend . . .' X watched the Curator's lips tremble as he spoke. The Luger was heavy to hold up and X was suddenly sorry for what he had done.

'Can't you see that it's for everyone to look at? An inspiration to help keep up the old values? Too important for one man to own. How will things ever be better if people like you steal and act like this way in the Old Capital?'

X wanted to answer that he couldn't help himself, that it was inevitable, a destined thing, that he loved the Luger. The Curator lifted his communicator, his eyes moved to it, he was too close to X.

X whirled and brought his right fist swinging down. The Curator ducked and his foot slipped on the mosaic floor. The shocker bolt smashed more cases behind X and the ozone smell drove him mad. He couldn't bear to lose the Luger, not now. He could stop at nothing.

He got balance while the Old Man was still slipping. X hit him a big blow with his left fist. He thought how like one of those old boxing films it was except that he was still holding the Luger.

The Curator went down. His skull struck the paving with a wet noise like an egg breaking. He didn't move and he didn't make a sound. Blood ran out of his ears.

Fear shook X, elation came too, and then horror. The Curator was his friend. Alarms broke out. Bells and flashing lights filled the Hall.

The blood stopped flowing, the legs straightened and then relaxed. It dawned on X that the Curator wasn't going to move again. That he was dead and X had killed him. It was against everything. He hadn't meant to . . . it was so sudden, it had all happened by itself. It was a sort of hell.

Sirens came and were getting louder. X saw the brass polished sensor tubes begin to search. People came from somewhere. Not the Guard yet, but holiday people running and screaming and pointing at him. A lens caught him. He saw it twist to focus, then all the sensors twitched towards him.

It was pandemonium. It was puzzling where the people came from. They were all after him. Men, women and children all in their bright holiday clothes. They knew what he'd done and he knew too and that was the worst of it. All the time he could see the Curator's legs twitch and the bright blood pools on the grey and blue mosaic.

The bronze door was closing. X ran on his slapping feet and dived through the last two feet. The circle closed and he landed sprawling down the steps at the feet of the Guards there.

'Murder!' He shouted as he finished rolling. *'Back there!* Right behind me! Killed a man!' X didn't know where the words came from but they were there when he needed them and it worked. The Guards paled, it took their minds off X as he slipped through them.

A killing could happen in the Old Capital but in the Nice Part it was something else, they just weren't used to it. It stopped them, it was so horrible, so personal up there in the light where they could really see it.

The Guard Traveller was on the square. X changed direction and bundled into it. The fans were still running, it lifted off easily and accelerated hard down the street. The pigeons scattered and the power screamed. X didn't know how he did it. The machine seemed to drive itself. He wasn't thinking of much, it was all just happening and he'd killed his friend. He clutched the Luger to his chest like a talisman, he was shaking all over and all he could see was the blood on the mosaic.

The Barrier loomed ahead. The Traveller changed to high lift and jumped it like a race horse. Nobody tried to stop them. Nobody even shouted. All the sensors were focused back to the steps where the Guards were being swamped by the escaping people.

Half a mile down it was totally dark and it was raining. The few lights were almost out and there was nothing unusual about that. The Traveller went down at full speed, the spray lashed out behind as the Generator guided it down the dark alleys. X put his head back on the seat, savoured

the safe darkness, held on to his Luger and thought of the dead man. He didn't care what happened, he let the Traveller take him on deeper into the darkness. On to where the Capital was dank and slimy, to where the steel and structures wore beards of slippery moss, deeper and deeper into the forgotten parts. To where there were no people, to where there was no music, to where the lenses were clouded and their brass parts green with decay, to where it seemed no one had been for a thousand years.

X accepted what would happen. He didn't care if he lived, he let the Traveller and chance take him on to where they liked. In the end they took him out of the Capital and at first he didn't even notice.

Twenty miles outside the Traveller stopped. The energy exchanger had exhausted slowly, it was not until the first hill slopes that the machine laboured, then lurched and ground to a stop.

It was dark there too. But not with the velvet intensity of the forgotten parts of the Old Capital. There were stars—but X didn't see them until the Traveller had stopped and it was too late to go back.

He sat up with a jerk. He looked up through the cupola and saw the stars shine in the summer sky. Panic hit him and he screamed. His stomach turned as he recognised the wavering beauty of the heavens and realised that he was in the Outside.

He'd seen the Outside. He knew what was there. He'd looked out from a safe, clean gallery in the Nice Part. He'd seen the red-brown desert, the deep carved water courses, the cracked and eroded surface.

He knew of the death out there. He'd seen the half revealed bones where they lay to wear away in the dusty winds. He knew it was death to breathe the air, death to walk in that place. That in the Outside everything meant death.

X sat shivering in the silence and watched the dawn crack across the sky. He sat and counted his days, regretting the

Curator, waiting for the bubble of air in the Traveller to wear out.

The sun rose over distant mountains and X had resigned himself. He sat up, arms folded, still shivering slightly from the cold, reckoning his death the just return for what he had done to his friend.

Full daylight came reluctantly to that devil's landscape. Long ages before there had been neutron bombing and bacteria, napalm and defolients, nerve gas spread wide and thick. They said the anthrax had only lasted a hundred years in the soil, but there were other and worse things than that.

X studied the fantastic shapes, looked at the piled up rocks, the low dunes of mud and dust, caught the sparkle of glass from old broken houses. He heard the wind move on the face of desolation and he could ignore it. He didn't care much any more, he knew he would soon die.

On the horizon, on the brow, a slender light glint took his eye. A straight thing, the only regularity in all the twisted world. On poles, on regular shining poles there were lenses and antennae sets. They swivelled slightly, each rocking its exact arc as the Generator kept watch over the Capital and its people. There was nothing else moving, only the sterile wind, but later in the morning there were dust devils moving too.

It was the Generator that had built the Capital—made the Fuller for all the people to live in. It had been the Generator's suggestion, perhaps it had been in the days before it gave orders. It had computed the design, made arrangements so that the Fuller became possible, told the men what to do and how to do it. 'Safe for ever!' it had said. 'Safety and content!' So then they called it the Happiness Generator.

They must have been mad, thought X. Those great men in those golden days, they must have been mad to even make the attempt, to put themselves so much in the power of the Generator. But the thing had been done and the Generator

was given more and more to do, more and still more power. Perhaps, thought X, perhaps the men that decided those things had had a whiff of the gas that made men think they were cats and afraid of mice. Perhaps, in some way, they had been really mad. Perhaps everyone was mad.

X knew the story. He had to admit that the Generator and its Fuller had saved the race from extinction. The Other Side hadn't had a Generator as good as the Capital. They hadn't built a Fuller and they'd all been killed.

They said the Others had started the Trouble, but for some reason X wasn't sure he believed that. One story was that the Generator had computed when the Others would strike and then hit them the day before. There had been a reply, of course, but it was soon over and anyway most of the people were in the Fuller. The poisons had come down like rain, soaked the soil and there was nowhere else to go except the Capital.

After that the old men had realised how dangerous the Generator was. That was when they'd made the President to be its keeper. He was supposed to have power over it, but X didn't believe that either.

He sat still in the Traveller, looking at the desert, knowing that he would soon die. He dismantled the Luger, hoping perhaps to find out its essence, to find that quality that made it so wonderful for him. He spread the pieces on his lap, counted them, explored their beauty. He thought of the Curator, wondered if the pistol was really worth his death.

He looked down the barrel, saw the rifling bands shine spiral back at him. He saw the dashboard through it, the communicator panel from the Generator, then used the barrel as if it was a telescope to study the slender lens poles on the ridge. It grew hotter as the sun rose. X reassembled the pistol, unfastened his jerkin. He sweated and looked out at the baking rocks. Slowly the heat became unbearable.

Finally it was his bladder that drove him out. He knew he would die anyway if he stayed and he chose to go out and stand up, not to die sitting in a stink of urine. He stuck

the Luger in his waistband, took one last deep breath and opened the door.

Glass fragments cracked under X as he stood and swayed. He was surprised when he did not die at once. He decided the surviving contact poisons must act more slowly. His legs were stiff and his head began to pound as he struggled to hold his breath—he turned for one last look at the Fuller. In the Nice Part he saw spectrums where the sun shone through. There were trees, people in bright clothes were brilliant dots there. Safe, thought X, they were safe and they would live and he wouldn't.

But there was an end to it. The horizon began to spin. X's breath exploded out. In utter terror he stood and fought, perhaps he lasted a full minute before he had to breathe. He gasped in, then stood waiting for his lungs to sear, for the agony to begin.

Nothing happened. The Fuller towered over him, dominated half the sky. Perhaps he could make it back. He was breathing freely now and still nothing happened. Perhaps he could last a day, or even a week, perhaps with treatment he might live. A little moment of hope came, but really he knew he was doomed. Then, suddenly, he hated the Fuller and all he wanted was to be alone with himself to think what things meant to him.

At least he'd die out of the Fuller. They wouldn't recirculate his flesh to grow algae. He would assert himself. He'd take his Luger and walk away, get away as far as he could. Walk! He'd leave there *running*, walking was too slow! Perhaps, with luck, he could get out of its sight. In the end it was a matter of pride. X turned and began to jog towards the hills.

All the way he passed ruins. Buildings and bones, a great rusty field of dust that had once been a road. Endless rivers of rubble and lines of cars were half buried there. They had what was left of seats in them, some had bones too. The lines reached all the way to the Fuller. X hurried past, the only sound was his breathing and the sough of wind in the thin jagged metal. Not everybody had made it to the

Fuller, only the chosen had been allowed entry on that last day.

It was evening before he got near the hill crest. He drove himself up there, staggering with fatigue. His vision was a red haze. The sun had set and it was cooler and night was coming and he was sure that he was dying. He stumbled and fell to his knees. The sand was warm and he found he could go no further. He slept face down, moaning and making running movements with his legs as he dreamed of the Curator and half felt the Luger digging into his ribs.

In the warm breezes of morning X's eyes opened and met sand. His mouth was gritty and he ached all over. He lifted his head, sand crumbled off his cheek and down his neck as he sat up. His body was so painful he was sure that he was alive.

He looked back and the Fuller was still there. Twenty miles away, thirty perhaps, still big on the horizon, blue and shadowed against the rising sun. He sighed, stood up. There was still a distance to go, it seemed he still had time to cross the hills and get out of sight.

On the crest X stood amazed. There should have been only clay and dust and bedrock, everybody knew the world was dead except the Capital.

For a moment he thought it was some sort of hallucination—where there should have been desert there was grass. A waving sea shining back blue-green under the cloudless sky. It was like a blow in the guts. Like a blind man he set off down the slope to bathe his feet in that green ocean.

Swallows and larks swooped and fluttered along the slope. The wind felt free there. Slowly it dawned on X that he was not about to die.

Life began suddenly like a knife edge just over the crest away from the Capital. Just there, ten feet into the grass, something made X stop and look up at the slender posts as they curved away in their long perspective. A buzzard came circling slowly down the wind. As it crossed the line a lens looked up and a bar of white light connected it for a

moment with the bird. The buzzard puffed smoke and flapped twice before it fell. X stepped on quickly. He guessed the Generator killed anything that moved towards the Capital. There were animal bones all along the line.

Strange thoughts came to X as he travelled the grass. Ideas stirred in his well-taught brain, all the time the Luger nagged in his ribs, worried him with its presence. Clouds began to build in the east.

Night came and he was sitting high on an age-smoothed granite mass, an island in the darkening green, looking back at the Capital and its glow against the sky. The air was sulphurous, heavy and warm, thunder mumbled in the hills and X's head ached.

Lightning crackled under the massive clouds, an age passed, X watched the storm come nearer. It seemed to touch the Capital, the lightning spidered down across the great Fuller, hit all along the hills.

Rain blotted out the Capital and its glow as if it had never been. X felt the Luger tingle in his hands. He looked down at it and the muzzle glowed with a strange phosphorescence. Giant thunder came and the Luger was pointing at the Capital and he suddenly understood. He was going to shoot the Happiness Generator!

Blast it like a thunderbolt! Cool rain came, cleared the air and X's headache was gone. That Luger, it was made for something, it had a purpose. It had a *function* and that was the clue to its meaning.

X felt the weight of it. Felt the power of the thing come jarring up his arm as surely as if he'd fired it. It was clear. He'd always meant to shoot the Generator, he was always meant to shoot it—that was why he'd loved the Luger.

Now he understood, it was reasonable. Somehow he hadn't been able to recognise the purpose inside the Fuller. He knew now, he knew why he'd stolen it, he knew the real reason—he knew now why he'd killed the Curator.

He was going to pump a handful of bullets deep into the guts of the great machine. Find its vital parts and send shots to burst and ricochet through the banks and memory coils,

each round taking its two or three hundred metre tunnel of destruction through there. He was going to set the world free, release the people to make their own way in the green and living world.

Now it only remained to find nine rounds of 9-mm ammunition. There'd have been none made for generations, but somehow he was sure there'd be some somewhere. There had to be. He knew he'd have to find some. It wouldn't take many, just a handful in the right place.

Not enough to kill the machine entirely, just enough to take out its higher parts, the structures that made it so powerful, the ego unit that it had made itself. Just the top ten per cent, like one of those lobotomies it did to people, just enough to take away its ambition, its aggression. Then it would be what it really was. A tool, beautiful like the Luger, a stupid efficient servant, uncreative and safe. A thing to serve men, their creature to organise their days and do their small things.

X sat on his great rock and watched the Capital reappear as the storm passed. The rain had soaked him, his clothes had begun to fall to pieces but it was an hour before he felt cold and had to move. He was weak and hungry, exhausted, he felt as if he might die anyway.

X turned from the Capital and clambered down the bald granite. In the grass he looked again and the Fuller itself had disappeared. He began to stumble through the grass, he had to find food quickly. He knew what a great thing he had to do, he was sane now and knew how weak he was. He slowly became aware of a light ahead of him. Not blue-white like the Fuller, but a small orange square against the green darkness.

He had no idea how long he had walked. He staggered into a shallow winding valley, thick with trees and misty into the distance. He followed a small path, tripped on roots, blundered against bushes as he watched the orange light appear and disappear through the dripping trees.

Near the house there was the sound of water and a dog began to bark. X made sure the Luger was hidden and stood

waiting while a man came out with a lantern. He held the dog by the loose skin of its neck and raised the lantern with his other hand. The dog was very big, a sort of Alsatian, and it threatened X with murder.

X tried to say he meant to hurt no one. He stood very still while the dog sniffed him over between its barks and growls. The man held his light close and all X could see were the moths that danced around it.

'You're drunk . . .' The man laughed at X as if he was really amused. It was a nice sound. 'The dog won't hurt you, unless I tell it!' His voice changed, filled with concern when he saw X's condition. 'You look *bad*. You look too weak to hurt . . .' X didn't know whether to be glad or not and he didn't care as he pitched forward into the man's arms.

'He could sleep in the shed. Bring him in first.' A woman came out of the shadows. She held a shot gun and she stayed just inside the circle of light. She took no chances and there was the dog, and that worried X much more than the gun.

The man got an arm under X's shoulders and helped him towards the house. They paddled across the shallow stream and into the brighter light which came from the door. Inside the dog started its clamour but when the man put X into a chair it fell silent.

They bathed X's cuts and bruises, wrapped him in blankets and the man gave him whiskey from a pottery cup. The woman brought cheese and coffee and when X saw her stand by the light to cut bread she was beautiful. About thirty-five, slim but stronger looking than any man X had ever seen in the Capital. Her voice was lovely too, low and like violins. Her skin was brown and her voice was as soft as her skin.

'You've been hungry.' The man watched X eat, poured more whiskey into his coffee. 'You'll understand about the guns?' X saw the man had a sub-machinegun handy. 'My Sten gun, I mean. It's lonely out here . . . people are always hungry . . .'

X nodded, his mouth too full of cheese to speak. The man laughed again. He had red lips behind his black beard and X was surprised to realise that they weren't painted.

'You're from the dome?' X nodded again. 'What's it like in there now?'

'What are they wearing?' The woman turned from the fire. She smiled and X told her all he knew. Then he saw she didn't really care and only asked to be polite.

They had a good house there. The walls were three feet thick and made of stone and clay ... the fire was warm and there were no lenses. X talked freely, told them everything they asked. He'd never been in a better place.

'Capital hasn't changed ...' said the man. He gave X a cheroot. 'Take the smoke right in,' he said as he lit it. 'Hold it in your lungs—it'll do you good.'

'It hasn't changed in a thousand years,' said the woman. 'What would change it now?'

'Why not? Why shouldn't things get better if men make them?' X felt good. Full of food and confidence. There was a warmth in him, a glow of safety. 'A man could change it.'

'She's right.' The man brought another bottle. 'The machine won't let anything change.'

'I've seen it—even the Generator is trying to cure the desert. I've seen aircraft spraying neutralisers ... from a gallery in the Nice Part. Decontamination ... they've ploughed places, planted them. It'll work one day ...' It was all right, X knew everything was for the best. The man laughed and the woman smiled.

'You know the Generator better than that. What it sows is poison, all it ever sprayed is herbicide. The machine needs that desert, it could control the people anyway, but it's easier when they think there's nowhere else to go. They're happy then.' There was a silence while X realised why they'd laughed at him.

'I'm going to kill the Generator!' X spoke out of anger, he hadn't meant to tell them. More than anything he wanted their respect. 'I can change things! I'm going to.' They took

it seriously, they stopped laughing. There was another long silence and the man looked thoughtful.

'It's bad in the dome? The crowding? That why you came out?'

'More sad.' X took a long pull on his cheroot, he found he had to tell them everything. 'I . . . I killed a man. A friend . . . an accident, I think. But I wasn't happy there anyway . . .'

'It'll get better in there.' The woman looked at X with her big serious eyes. 'Let it be, let it get better like out here, slowly. Naturally. It'd be dangerous just to stop the Generator. Think of what would happen to all those people. Joe, tell him!'

'Yes, look at the hell they spilled out here. Even then it didn't kill everything—seeds can survive for millennia and still germinate. I suppose a lot of the bacteria got sterilised in the radiation bombing. I suppose the main attacks were on the dome—it asked for it, just being there. Anyway, things were bad but it all came back. Better to do things slow, organically, without violence.'

'My grandfather came out of the Capital,' said the woman. 'Joe's too. People come out all the time. One day they'll all be out and then the machine will stop because there's just nothing else for it to go on for . . .'

'That's why it keeps the people in.' X saw how it was. Perhaps it was the whiskey, he was seeing things very clearly right then. 'It's a big prison. It keeps the people so it's got a reason to keep going. It diminishes human dignity. It's got to go!'

'Christ! Is there any of that left?' The man spat in the fire. 'Those people could get out any time. Like you. Anybody can get out if he tries. Let them be, they're happy in there, that's why they stay. It's safe! That's why it's called the Happiness Generator. They don't want to be free, it's too hard!'

'Then why are people always running from it? If it's like she said, why call it the Happiness Generator?'

'Because they're alive and they think everyone else is

dead.' The man stirred the fire. 'That's happiness, that's the best you can expect. Everybody doesn't have to be dead either. But they were. The bombs, the strikes were designed to kill people, crops, almost nothing else.' He laughed again. 'Do you know they had a strain of foot and mouth that only attacked humans?'

'You said the Generator made the desert. Not the Others?' X helped himself to more whiskey, took another of the cheroots. 'It's got to go. Doing that!'

'Maybe there were Others. But it was their Generator that really did it. They might have called it something else, but it was the same thing really. You can't distinguish between them, not really.' The man paused, ran his hand through his hair. 'Look, it did what it thought best. Everything's easier in the Capital. I just keep thinking of what'll happen in the dome if you take out the Generator.'

'You're free.' X finished his whiskey. 'Why not everyone else?' There was silence again. The woman sighed. 'Anyway, I've got to do it. I killed the Curator to do it. He was my friend. I've got to do it for him, or else it'll have been for nothing. I've got a destiny to do something—I've got this talent for violence.'

'How? How will you even get near the Generator?'

'I'll find a way. There'll be a way . . .' X knew there was, there had to be. It was certain that there was a way. 'I know what I'll do when I get there.'

The man changed the subject. He told X how he herded a few sheep and got a little gold from the stream by electrolysis. He told how he only met other people when he went to what he called 'the town'.

'These things . . . the oil for your lamps, tobacco, coffee, the manufactured stuff. They make them still?'

'Everything wasn't lost in the Trouble. A lot of machinery left. There aren't the people, that's all. Most things are made these days. That's why I bother with the gold.'

'I've got this.' X put his Luger on the table.

The weapon had a slight gold sheen in the lamp light. The

man handled it, inclined his head and looked at X. Then he laid it back on the table.

It was still beautiful. X studied it too. It was almost like seeing it for the first time, he was never more aware of it. He looked up and saw the woman staring at him.

'That's it, isn't it?' She wasn't smiling at all. 'That thing's too important to you!'

'I loved it.' X told them the whole story, how the Curator had shown the Luger to him, how it had seemed to lead him on and on until he had to kill the Generator. 'I told you a friend died for it. While I think there's a reason for it all I know I'm not mad . . .'

'Shoot the Generator?' The man looked puzzled.

'Are you sure?' the woman was frowning. 'Guns are for killing *people*. How can you hurt something like the Generator?'

'Bullets . . . that's . . . it's got to be done like that. The gun—it's from the good era before the Generator, from before the Capital.' X wanted desperately to convince the quiet woman. To make her see he was right and how important it all was. 'Because I killed the Curator for it . . .'

'It'll be bad if the machine goes—but you can't hurt it. You won't get near it.'

'Everything has led me this way. I've got no choice. I'll get there and I'll do it.'

Nobody said anything. Later the man showed X where he could sleep. In the morning he came back and gave X bread and a flask of water with whiskey in it.

'She doesn't want you around,' he said. 'I'll walk a little way with you. She wants me to see you clear, doesn't want any part of what you might do.'

They followed the stream down through the valley and the sunlit trees. X could see the man felt bad about what he had to do. At last they stopped and the man turned to face him.

'We're near the dome here. She's frightened—so am I. You've only got to think . . .'

'There is one thing,' said X. '9-mm ammunition. I need

ammunition for this.' He slapped the Luger. 'Where do you get your manufactured stuff?'

The man slung his Sten gun and looked back. They were out of sight of the house, he satisfied himself that no one was watching. He passed X a small leather purse.

'9-mm Parabellum. Calibre ·354 . . . it's what you need.'

'How? How old?' X hefted the bag. It was heavy. He felt the cartridges move against each other. He couldn't believe his luck. He tipped the heavy little brass cylinders on to his palm.

9-mm. Nine rounds. Lucky numbers. It was destiny . . . fate. Everything worked for him as if he was on rails.

'Fresh enough. A year maybe. They're for this.' The man held up his Sten. 'Good cordite. We make the Sten. Simple, effective, easy. Same size as your Luger.' He looked up into X's face. 'Lucky . . . I suppose . . .'

X pushed in the catch and sprang the magazine out into his hand. He put the pistol carefully on the ground, stood up and moving down the magazine spring the way the Curator had told him, began to slip in the rounds.

'I wanted to help you.' The man watched him work. 'I needed to, I suppose. Somebody's got to do something about that Generator. I had to help you.'

X pushed in the magazine and heard the catch slip into place. Eight rounds in there made it much heavier. It felt stronger too, the fat butt sat even better in his hand. More potent, different from before. It was the ammunition, the Luger had *validity* now. It wasn't only the weight, X felt the power spread into him, warm his hand and arm. He felt really *good*.

'I . . . I'm still not sure she's wrong. It would be hell for those people in there, if the Generator goes.' The man laughed shortly. 'An end of the Happiness . . .'

X pulled back the toggle joint until the breech block was behind the first cartridge and let go. The mechanism sprang forward and the first round was in the barrel and the weapon ready to fire. He put on the safety catch. He held the Luger by his side, the heavy barrel reached below his

knee and the power of it was wonderful. He began to listen to what the man was saying.

'Don't go back by the house. I don't want her to guess. The Capital is that way. Go over the hill.'

X nodded. He thanked the man. He held the pistol in one hand and the leather purse with the spare cartridge in the other. He started up through the trees.

At the top he looked back. The man was still in sight, looking back up at him. He looked small to X, smaller than before. Perhaps it was that he had no great aim, no fate. Maybe, thought X, maybe it was his one important thing, all he had to do was supply that ammunition. Now that was done and there was nothing else for him. X waved back and crossed out of the valley on to the grassy plain. The hills loomed ahead and the Capital was beyond them. The ring of lenses topped the crest. All day X listened to his legs swish through the grass and watched those sensors flash and move in the sun.

The Generator killed buzzards for crossing and coming too close. X felt the weight of the Luger and was sure that he would get through, but later in the afternoon he began to wonder how. He watched the clouds build over the desert to the east and as the air became still and hot he became steadily more worried.

Evening found him crawling up a rocky water course into the hills. Soon it was dark and the storm had come again. Muddy waters flooded down and X crawled on through them.

In a lightning flash he saw the slender metal pole directly ahead. The sensors moved, shone wet up there against the driving rain. He marked the position and when he could see in the darkness he found the pole again, silhouetted against the glow from the Capital.

X brought up the Luger with both hands. He estimated the range and set the sight. He lay on his belly, spread his legs and pulled off the safety catch. He aimed carefully at the shifting eye. As he took the first pressure on the trigger lightning came again.

Violent energy lashed down from three hundred feet above. It was as if it came over his left shoulder, the thunderclap was instantaneous. The ground heaved and the pole was a yellow after image straight down below the jagged shape of the lightning.

He lowered the Luger. There was nothing he could add to that destruction. Sparks moved about the control box, played up and down the split and melted pole. A high pitched humming vibrated in the ground, insulation burned a moment with a guttering red flame and then went out in the rain. X put on the safety catch and walked out into the desert. Everything worked out for him, always. Fate was wonderful.

In the darknesses between the storm flashes, in the engulfing thunder, X stumbled down the sodden slopes. He hid all the way, timed his dashes in the roaring wind, ran in the obliteration of the rain.

The Capital loomed out of the murk. The lights were blue and grey, the structures invisible except when parts were lit by lightning. Opal, it was like a great jewel set above the hidden landscape. Lightning splayed and reflected on the wet surfaces and a dozen bolts struck in the ten miles of twisted desert in front of X. The earth rocked in the energy of the storm.

X stumbled into the rust river of the old cars. He crawled through, partly to hide, but also to escape the stunning rain. He mingled with the bones there, his weight cracked the brittle plastics, he tangled in discoloured rags of clothing, crumbled the paper-thin rust as the rain drummed on what was left of the metal. The last shreds of his own clothes washed off and he crawled, scratched and naked, clutching the Luger, the purse with the one cartridge hung around his neck, sometimes through and sometimes beside the old cars.

The storm ended at dawn. X reached the end of the cars, let the sun warm him as he lay a hundred yards from the great curve of the Fuller. He dismantled the Luger and carefully cleaned the working parts. A few grains of sand could jam the action. He wiped the cartridges and reloaded the

magazine, wished he had a little oil. He thought of food and wondered if he dare drink water from the puddle in front of him, the provisions the man had given him were long since gone.

By mid-morning the sun had disappeared and X was in the shadow of the Capital. He got up, half crouched and drove his stiff legs to where the great wall reached the earth. Blank concrete rose a hundred feet up before the Fuller began and X felt safe there. Water running off the great catchment had worn a deep ditch there. X climbed in, ten feet below ground level, his feet splashing in pools of clear rain water, he felt safer than ever. He followed the great perimeter around, it was two miles before he found the entrance.

The port was set at X's eye level, five feet above the floor of the gully. He stood back a little and saw the door was raised. It was enormous. Fifty yards wide, but only open a few inches. X hesitated, then, pushing the Luger in front, climbed up and struggled into the darkness.

Light glowed a hundred feet in front. When he had the courage X walked that way, the flapping noises of his feet echoed back from high ceilings and distant walls.

Jets of water sprayed from the darkness, caught and held him. Hot soapy water, detergents sprayed the imaginary contamination from his body. Radiations came to kill the bacteria. In that hard dull light X scrambled across the slippery floor. The jets followed him, he spat soapiness and the water came clean, washed him pure and stopped the smarting of his cuts. He fought on, when he fell near the far door the water changed to warm air and dried him.

New and fresh clean, X stood under the small light he had first seen by the far wall. The strip of light where he had crawled in disappeared with a moan and a clang. Somehow he still had the Luger. He leaned on the wall and remembered to hold the weapon barrel down to clear the water out. The wall groaned and then whined up. X pulled off the safety catch and crouched through there.

'So it *was* you! So you got it . . .' The Dealer came step-

ping out of the half darkness. X pointed the Luger towards him and looked him up and down. It was surprising to meet him there—there shouldn't have been anyone in the darkness under the Old Capital. Not in that unused place.

'The Luger, I mean.' The Dealer still came forward. His coat swung heavily from the tools hung inside it. 'I guessed . . . I knew why you wanted those pliers when I heard about the *Luger*.'

'Why are you here?' X was still suspicious. It seemed so strange to meet the Dealer again.

'Me? I'm often here.' He turned, waved his hand at the dark shapes that surrounded them. His coat flared as he turned back. 'Things. Down here . . . tools. *Things*.'

X's eyes were used to the half light. Now when he looked he could see big machines ranked away into the darkness.

'Agricultural machines . . . harvesters,' said the Dealer. 'I believe that's what they are. From when they thought we might be able to go out again one day. Just *junk* now, until that happens. Like the museum stuff upstairs.'

X saw the tool box strapped outside of the nearest machine had been broken open. Anti-corrosive padding was hanging out, a ball of the stuff was screwed up on the floor. The Dealer followed his eyes and laughed.

'Where do you think my tools come from? I know where to find *anything*.'

'What about the Generator? Where's that?'

'Everywhere . . .' The Dealer stopped laughing. 'All through . . . it sees *everything*. Scans it.'

'It didn't see me. Where are the central parts? Where are the parts it made itself?'

'That Luger?' The Dealer didn't want to answer X's question. 'You find ammunition with it? I might be able . . .'

'I've been Outside.' X watched the Dealer closely. The man's jaw dropped. He stepped back, he looked really surprised.

'Outside! You . . . you're not dead? How long . . . ?'

'Four days.' It was X's turn to grin. 'I've got a surprise for everybody. Twenty miles out the desert stops, only you

can't see that for the hills. Green then . . . green grass. Further on there are trees. Trees and people, they make things, they even make ammunition that fits Lugers. Where's the Generator?'

'Up.' The Dealer answered without thinking. 'Beyond the Nice Part . . . You . . . you're not going to do anything *desperate*?' He looked at the Luger and back to X's face. 'Now look! You *can't*!'

'Tell me how I get there.'

'I'm not saying! It's *watching* now! There were alarms before you came in. You haven't got the money to get me to tell you that!'

'I only need a bullet,' said X slowly. 'In your right knee cap. You'll never walk straight again. If that doesn't do there's still your left . . .'

'All right! But the Happiness Generator! Taking *that* on! Just *think*!'

'That's me, not you. I've got to do it. Anyway, it deserves it.' X brought up the Luger. 'This thing won't just smash your knee. Might even take your leg off . . . very powerful . . .'

'All right! There's a lift—this way.' He led off. X kept out of reach and followed. As he went he took an overall from one of the tractors and slipped it on.

The lift had white walls. X drove the Dealer in and made him operate the controls.

For a full five minutes the lift ground up through the darkness and many levels of the Old Capital. Then they plunged into the sunlight and music of the Nice Part. X held his Luger on the trembling Dealer and stole glances out of the window to his left. He spotted the Weapons' Hall far down there and saw Guard Travellers moving on the roads and ramps. The people were brilliant in their holiday clothes, but it was always holiday under the Happiness Generator. It was a kind of innocence, a sort of Eden to live in the Capital. X knew what he intended was right, a virtuous thing that he owed the dead Curator. He would unleash humanity to do great things again, it *couldn't* be bad but he knew he would get no thanks.

Then suddenly they were high through the sky and the lift had stopped. X opened the door and they were in a jungle. There was water underfoot, the air was humid, water beads flashed and all he could see was green-yellow flickering ferns and small dashes of clear blue sky beyond them. He was dazzled, he walked on the way he had to go in that flashing light-show jungle.

X shoved the Dealer on in front with the long barrel of the Luger. They burst through thorny bushes on to white tropical sand that hurt their eyes with its glare. A turtle watched them stonily, blue ocean stretched away beyond waves breaking on the reef, warships, low and grey, lay out there. More museum pieces, thought X, just anchored there.

'The Happiness Generator? It's here?' He could see no sign of anything that fitted, there was nothing that he could identify. 'What is this place? How is it done?'

'The President's. He *lives* here. It's for *him*. His secret garden, he never *leaves*. The Generator's here too, or the part you want anyway.'

'All for him? He lives here? But I've seen him—he lives among his people, shows himself to them!'

'Dolls.' The Dealer grinned suddenly. 'He wouldn't live like the *people*. Not where *they* are. They wouldn't risk *him* down there. *Androids* . . . dummies. That way he can be in more places.' He looked hard at X and then went on. 'You don't have to believe it, but it's the President that *really* gives the Happiness Generator its orders! It *really* is!

'The President—he lives for *ever*. You don't have to believe that either, but it's *true*! Medicine, you know. *Surgery*. The Generator sees to all that . . .'

X found himself believing it. It suddenly seemed right, as if he'd been led up to it all along, as if he'd always known it. A pistol, even a Luger, could kill a man, but what could it do to a Generator? It fitted and anyway, no machine could hurt the Race like it had, not unless there was a man behind it.

'He was the President when the Fuller was made. *Power*. That's what he lived for—lives for. A *politician*, elected in

the first place, he'd do anything to go on for ever!'

It was true! X was sure. He saw it, he saw the pattern. The Capital had to go on to support the President, he was the one that needed the people to suppress and rule, X had heard of politicians. It was mad, but it was a human's madness. It made sense, in a crazy way, X knew it made sense.

'It's the *President* you want to shoot. Not the Generator!' The Dealer turned to face X. 'There! I've *said* it! If they catch me they'll *kill* me, but *you'll* probably do that anyway. At least we'll die for the right thing!' He laughed again. 'I know because my family always dealt in *things*—things like information. Got a good living . . . *fun* too—but this *big* thing I've told you for *nothing*!'

'You go,' said X. 'Your life, I'll give you that.' He had to find time to think.

'Good luck!' The Dealer backed off the way they'd come. 'They'll get me for sure: That *Luger*—you make it count!'

X heard the lift door open. It was too quick. The Dealer could never have crossed a mile of fern jungle. 'You remember!' The Dealer's voice came back loud and clear. 'It's *illusions*—all *false*. Remember it's the President's place, you know what *he* is. It's made of deceptions, *built* of them, one on the other for a thousand years.'

X heard the door close and the lift whirr down and it couldn't have been twenty feet away. He shook his head and turned to look up the beach. There were buildings there perhaps two miles away, hazy in the distance. He pushed the Luger inside his overall and began walking in the hot sun. When he looked back the fern jungle was as far away as the buildings had been. There were more and bigger ships anchored in close to the shore, all hazed and foreshortened in a funny perspective that he didn't quite understand. From the ferns to the buildings had taken one and a half minutes and he didn't understand that either. Simultaneously he appeared, standing, bright light and puzzled in two million screens throughout the Capital.

Two and a half million viewers saw him scratch his head, half draw his Luger and then push it back. The screens cut

to a close-up of his sweaty face, the people saw his eyes narrow as he glanced up at the sun. Some of them even noticed him.

The screens cut to the figure of the President as he poured the last vapouring liquid hydrogen from a heavy, insulated container into the giant refrigerator. He threw down his thick gloves and made a little bow towards the lenses. The screens played applause and cut briefly to a shot of the Curator android lying on his back with his chest open. Minimal lights flickered a dim pattern in the dark cave of the thorax. The Generator showed X's sweaty, worried face and played raucous laughter to its audience.

X rounded the first building. A full size steam-engine confronted him, a figure stood in its shadow. X hesitated, then drove himself out into the open for the sake of the Curator, he reached out the Luger and crept towards the man's broad back.

The screens flicked and the President's face filled them all. He smiled, gestured with his long pointer towards the complicated display behind him. He cleared his throat and began to speak.

'Don't make a sound!' X reached the man and pushed the Luger into the neck under the tricorn hat. 'Turn slowly. This is a pistol!'

The man didn't move. X shoved harder on the Luger. The man fell forward. Hit the ground with a small flurry of dust and X nearly screamed. It was like the Curator all over again. Three and a half million viewers caught the expression on his face and joined in the laughter. Perhaps it was going to be a good evening after all. A comedy, perhaps. The Generator, pleased with the effect, played the sequence five more times.

X felt for the pulse at the man's neck. There was nothing, the flesh was ice cold. X eased past the engine to where a Wright Flyer stood wilting in the sun. Two men were there, with leather jackets and caps worn back to front. As X went the android model of Newcomen flicked an eye open and watched him go.

'This evening,' said the President, 'continuing my series on Technology . . .' The viewers relaxed. Perhaps there would be more jokes later.

The screens showed the Newcomen android being laid on to a test stand alongside the Dealer and the Curator.

'In the fission bomb,' the President smiled at his people, 'the Uranium 235 or Plutonium 239, or a mixture, were divided and enclosed in a heavy case. They were then driven together by a conventional explosive. The masses were so held together long enough for fission to take place.

'In the bomb named "Thin Man" for example, two pieces of Uranium 235 were set at opposite ends of a tube and driven together, rather like two bullets fired from opposite ends of the same barrel. In "Fat Man", on the other hand . . .'

X pushed over the Wright brothers and the people laughed again. He ignored the Victorian electrical machinery with its waxed linen wrapped wires and moved quickly past the test beds with the turbo jets. The androids watched him go. When the audience lost interest the Generator switched them back to the President.

'. . . 5.30 in the morning, July 16th, 1945, in the old reckoning . . . at a place called Alamogordo in New Mexico . . .' The President consulted his notes. 'In what was then the United States of America. Shortly other devices were exploded elsewhere, our forefathers wasted little time . . .

'In a *fission* bomb only 0·1 per cent of the matter present is made into energy. In the *fusion* bomb 0·5 per cent is released. A vast improvement. With the fission bomb the temperature necessary for fusion became possible. It was possible and it was done.' The President turned and indicated the corrugated iron building that had appeared behind him on the screens. 'Here we have a reconstruction of a fusion bomb.' The Generator flashed the characters 'T minus 2·10' on to the four million screens.

X stumbled over heavy cables that led from diesel generators to the iron building. A trace of white vapour escaped from a tall chimney. As he got near a blast of hot air flapped his overall. He reached the door and hesitated there.

'In fact this is a more advanced design than the first thermonuclear weapon.' The President, inside now, tapped his pointer on the frost-caked drum that almost filled the hut. The lenses zoomed in closer than ever. 'At the heart—invisible, I'm afraid—is a simple fission bomb. All around is liquid hydrogen, almost at absolute zero to provide a dense mass. The outer container is several tons of Uranium 238—which is not normally fissionable, there is no critical mass—the small cables leads to the TNT charge which is to initiate the central bomb. In the trees to your left I have a switch . . .' He walked out of one door as X entered at the other. 'T minus 2·00' said the Generator's numbers on the four and a half million screens that were now activated.

The light flashed on the President's diamond cuffs, his throat ruffles were swan white and pink against the vegetation.

X edged through the narrow space between the bomb and the corrugated wall. Suddenly everything was very urgent and he didn't know why. The screens cut from the striding President to X and back again. The Generator began a commentary, drumming up the tension until the people stopped laughing at X's contortions and sat up on the edges of their six million identical stools.

'Will the President be in time? Will he see the assassin, X? T minus 1·90 . . . 1·89 . . .'

X got into the sunshine in time to see the President reach the trees. He ran that way. Past a jet fighter, past the combustion chambers of a Saturn five, past dummies, a small house with people in it—past assorted crucifixes arranged to test effects and resistances to radiation and blast. He skirted a Lunar Module, frightened a herd of tethered goats and burst through the bushes to confront the blank stare of the President's sun goggles.

'The initiating conventional explosive is detonated with a normal electric detonator. The system is in triplicate to avoid mishaps.'

'Will he be in time? Will he do it? Will the Capital be destroyed? T minus 1·01 . . . 1·00 . . .'

The President smiled at something over X's shoulder. X looked that way and the trees and bushes were hung with lenses and receptors. He turned and saw the President begin to walk leisurely towards a large switch that was screwed to the trunk of one of the ferns.

'T minus ·68!' said the Generator.

'STOP!' Yelled X.

'Yes?' The President turned to face him. 'You mustn't hold up my programme.' He turned to the lenses. 'Are the fishing boats in position? The fishermen?' He turned back to X. 'You've got to do things *right.*'

'KILL!' screamed the Generator. 'T minus 0·56 . . . 0·55 . . .'

'You're mad!' said X coldly. 'Fancy making a thing like that! Making that damned bomb again! Even if it's a *dummy* . . .'

'It's a real . . .' The President laughed at him. He started walking again, towards the trunk with the switch. 'Where'd be the point if it wasn't *real?*'

'For God's sake! Why make a thing like *that?*'

'Power.' The President began to giggle. 'Because I could! It's exactly as it must have been! Look at the ships!'

'I'm going to kill you.' X spoke with gravity. The viewers writhed a little on their seats, giggled uncomfortably. 'I'm sorry . . . I really have to do it . . . I'm sorry.' One or two in the audience began to cry.

'Now X! Now! Don't let him reach the switch! T minus 0·30 . . . 0·29.'

X pushed off the safety catch, brought up the Luger. He aimed at the President's head. The close-ups on the screens flickered from one face to the other.

'No!' The President held out a hand as if to stop the bullet. 'Please not yet—I haven't finished!'

The close up showed flame spit from the Luger. The viewers saw the toggle fly back and caught the cartridge case twinkle high into the airy sunshine.

X's weak wrist jerked up. Perhaps an earlier man could have held the recoil, but not X. The bullet went smashing into the foliage five feet over the President's head.

'MISSED!' The Generator was shrieking now. 'YOU MISSED! AGAIN! *Quick!* T minus 0·15 . . . 0·14 . . .'

'No! Time . . .' The President whimpered. 'Give me ten seconds . . .' He began to run for the switch. X fired and missed again. It was a moving target. Firing the Luger wasn't what he'd thought it would be. He fired again and again and his arm felt as if it had been broken.

'LOW! AIM LOW! T minus 0·9 . . . *Please hurry!*' For the first time the Generator sounded really worried. The people sat up and watched the President's heels kick dirt as he ran. They saw the fern fronds come falling down as X's bullets chopped into them, they gnawed their knuckles as whole sections of jungle blotted out and became different. They roared with laughter as the President ducked and bobbed, at X's antics as he tried to draw a bead.

Then the President reached the trunk with the switch.

'*Please!* T minus 0·5 . . . 0·4 . . . 0·3 . . .'

X's seventh bullet took the President in the small of the back. He crashed down, knocked flat, back broken and pelvis smashed. He screamed in agony, then moaned with despair when his clawing fingers couldn't reach the red lever of the switch.

'T!' said the Generator. 'T-time . . . thank goodness!'

X went to the President. Put the Luger to the weeping head.

'No . . .' the President waved the gun away. 'It doesn't matter . . . I'm finished, save it . . .' For some reason X took his last cartridge and loaded it into the empty magazine. That gave him two rounds. Somehow he felt he might need them.

'You must understand . . .' The President was weakening. 'That bomb—it wasn't as powerful as I said—but it can blow the Fuller open . . . open like an egg for breakfast. It's the only thing that could touch it, took me six hundred-years to lead up to it, to get the parts and fool the Generator. You spoiled it! Pretended I was mad. Got to destroy the Generator . . . you . . . you pull the switch . . .'

'Too late,' said the Generator. 'Much too late . . . yet

something . . . something not *right*? All right then . . . past T-time. *Something* . . . dismantle the bomb!'

The viewers laughed to see the President die. They laughed at X's puzzled face when he stood up. It had been a good evening. They laughed even more at his blank astonishment in his new surroundings.

All the woods, the beaches and the ships, they were all gone. Aluminium, everything was made of aluminium, built for lightness in that high part of the Fuller. X found himself at the dead centre, two hundred feet above him the great arches of the main structure met at the apex of the Capital. Around him the floor curved up. Ten feet away, set on a low, circular balcony, about eye level, nine machined alloy boxes ringed him round. They were quite plain, unmarked, uncoded for any human recognition.

X stood in the pit of the place, in the only clear space, holding his Luger, the President dead at his feet, looking up at the boxes. It was wonderful. Altogether they were no more than eighteen cubic feet and all the Generator, all that great thing was contained in those grey boxes.

Directly in front of him the President's red switch remained. No longer mounted on a tree, but roughly screwed to one of the boxes. X turned quickly and the bomb hut was still there too. Much smaller than before, but it was there and the President had been telling the truth. X yanked down the switch and nothing happened.

'I told you it was too late,' said the Generator, 'but something is still wrong and I can't think of it.'

There was a crash from the bomb hut. One side fell down in a flurry of the loose sand that was lightly scattered on the floor. The Curator and Newcomen came out carrying a chunk of the outer casing. White vapour boiled out with them, the steady pulse of the diesels stopped abruptly and the refrigerator cut out. The Dealer came out next with half of the Uranium from the inner bomb, then came the Joe android with the rest. The Wright brothers brought out the rest of the case and last of all came the Woman, frost on

her face and arms, with the TNT charge, the detonator leads still dangling.

'See . . .' said the Generator. 'But I wish I knew what was the matter . . . I . . . I feel so *stupid* . . .'

X saw where his last bullet had gone right through the President. Beyond that it had splattered blood and bone fragments on the box below the switch, there was also a small dented hole where the bullet had gone in.

When X looked the bullet had broken up inside and torn multiple tracks through and out the other side. There was a little smoke and small sparks played in the darkness. There were eight more of the boxes and six of them had been hit. The holes in the fronts were small, but at the backs the exits were enormous.

'See . . .' said the Generator. 'You see I've dismantled the bomb . . . I told you it was after T . . . You can't . . . you can't *hurt* me . . .?'

The androids walked off in different directions. X nodded and advanced on the two remaining boxes. His pistol was very powerful, it would do all that was wanted.

He put the Luger's muzzle six inches from the first box. He chose a point three inches from the bottom, angled the pistol slightly up and fired. The bullet entered two inches below the centre, travelled upwards through the box, shattered and smashed off the far side. One half of what remained of the Generator's central system died. X adjusted his aim for the last box and hit it dead centre.

He hefted the Luger and left it, warm and still smoking on the last box. A man didn't need a hydrogen bomb to settle his differences with anybody, let alone a machine. He still admired the gun, but he didn't want it any more. It was finished. He turned on his heel and stepped into the lift.

'SO ONCE AGAIN YOUR HAPPINESS GENERATOR TRIUMPHS!' The people settled down again, relaxed. The last few minutes had been very exciting, but they were glad it was over. It had only been a drama after all, not real, just another entertainment. 'The treacherous President has been killed by our agent, X. We chose him to serve us for that purpose.

We brought him through, we planned all his thoughts and what he considered to be his decisions. Even while the evil President scraped together parts and materials for his diabolical bomb, even then we had the dupe X moving always towards him, never suspecting that we had armed him, or why—believing in his *destiny*—that he would kill *us*!' As the screens spoke the people laughed. The funnier moments were shown again and again, that night the whole Capital rocked with their laughter.

'Relax ... our people. We, your Happiness Generator will attend to every little thing. Remember the desert outside ... trust us for your Happiness!

'Right now—IT'S TOMBOLA! From the Empress Hall in the Nice Part! And this week—a *special*—this week the winner becomes THE WORLD PRESIDENT! So watch those happy numbers!'

The audience studied the symbols flicker on their screens. The Generator was warm and *human* and understood, it was *confident*, everything was wonderful. The screens didn't actually go blank for quite a long time, the Generator had always prepared far enough ahead, but long before its voice finished the people had begun to wonder why the lights were dimming and why there was no water. Then, a little after, they were wondering why there were no more reassuring words, no new games, no more music. The screaming began in the vast, dead Capital.

By then X was well established in his wooded valley. The farm was real enough and he was fully happy when the dog came to love him and stopped barking when he stood up. He panned a little gold for his whiskey and cheroots and when the dazed people began to come puzzled from the Fuller he was able to help them.

STOOP TO CONQUER

by

JOHN RACKHAM

Given two opposing armed forces whose battle tactics are worked out by computers of equal ability, then how break the deadlock?

STOOP TO CONQUER

THE howling wind that struck Caswell's left shoulder and threatened to throw him off course had whooped its way down from the North Pole and seemed full of bitter determination to sweep him away just as it had effectively swept away everything else on the bleak iron-hard plateau. Snow as fine as flour further hampered vision already restricted by the shielding goggles he wore. Had it not been for the second-by-second radio-tone in each ear he would have long since lost his aim. So long as those two notes didn't jangle he knew he was going in the right direction. That much the military outpost could do for him. They had also told him he had about three miles to go, on his own, before he struck the nearest Meden outpost. Three miles hadn't seemed all that much, when he started out, but now it felt as if he had been plodding and slithering forward half a life-time.

The hunched shoulder, tucked-in chin and squint forward into grey haze had become mechanical, leaving his mind free to go over, forwards and backwards, the reasons why he was here, almost as alien in this setting as the aliens he was going to meet. Reviewing data and trying it in various combinations was nothing new to him. Sam Caswell, BA, PhD, mathematician, poet and pianist, ardent pacifist, was also Chief Analyst of the Strategic Computer Complex of United Earth. That post had been created within weeks of the horrible reality of the Meden invasion of Earth, almost a year ago now, and it followed that Caswell knew as much as anybody and more than most about the Meden. Because he was a natural-born computer-man he wasn't at all sure that he knew enough to justify what he was now doing. He

wasn't absolutely sure. Ninety-eight per cent plus was as close as he could make it, and the missing fraction bothered him a lot more than the slippery underfoot or the savagely cold wind. So he went over it again, step by step, as he leaned into the bitter blast and struggled on.

Almost exactly a year ago, the Meden had come, abruptly from nowhere, without warning, announcing their presence and intentions with stark efficiency. Dark and anonymous ships, a whole fleet of them, were suddenly there in orbit and while astonished humanity was still reacting to the surprise, out went the tiny and precarious outpost on Ganymede, out in a bigger show of fireworks went the struggling dome-colonies of Mars, and out, in a really spectacular but swift demonstration, went the whole Lunar complex. Within short hours of those body-blows came the neatly-tied-off-ends report that there remained not one single artificial satellite anywhere in Earth's orbital space. Then, while everyone scrambled crazily for cover and wondered what to do next, the dark fleet divided itself neatly into two and came down, with neither flourish nor fanfare, to settle and dig in at either Pole. Then came the message, on all wave-bands and in creditably intelligible versions of all major Earth languages. Caswell could remember the exact words.

> 'We are the Meden. We have taken your planet. Resistance is futile. We will allow you ten planetary revolutions to organise and arrange total surrender to us. Do this, serve us, and you will be well treated. Resist and we will use whatever force may be necessary to defeat you. We are the Meden . . .'

It had been a hectic year. Caswell's thoughts, however, were more on the three decades that had immediately preceded the invasion. And on the vast string of centuries before that. And, like all other pacifists, he could have wept for the irony of it. Centuries of struggling with and against all those inborn urges to fight, the biological drives and imperatives, the lunatic persistence, right up to and hanging over the very fringes of total self destruction—a decade of

trembling on the brink—and then, gingerly and delicately, hardly daring to breathe, the slow pull back. Mankind had at last made the choice that was no choice at all, the way of sanity, peace and goodwill. And for three nervous but ever more hopeful decades, it had been peace. Common-sense. Talk it out. Work it out. Solve it, don't smash it!

Caswell stumbled over a treacherous ice-lump and sprawled a moment, got painfully up, oriented himself by the noise in his ears and struggled on, leaning into the blast. Thirty years of peace and then the Meden had come, and Mankind had once more to turn and pick up the weapons that had been laid aside, hopefully for ever. Damn them!

A year of madness. A year in which the Meden had put out forays, had demolished a minor city or two, just to show they could do it and in which their feeler offensives had been fought, shocked, stopped and thrown back, to show them they weren't going to have it all their own way. A year, too, in which humans had mounted offensives against the two Polar bases and had been solidly and effectively repulsed by potent weapons and sophisticated defences. Skirmishes. And then stalemate. Caswell knew it, from his data. Into his hands came all the data. In short order Earth had combined and coalesced all its immense computer capacity into one giant network—a war machine—and its conclusions were impersonal and accurate, within narrow limits. Both sides had bigger and nastier weapons than they cared to use. Neither side wanted all-out final war when the prize was a radio-active waste-land.

So the Machine said. And so Caswell had reported to his superiors, to the United Earth War Council, comprising World President Kolodin and his advisors and ministers, together with General Osborne, C-in-C of the Combined Services Command. Almost perfect stalemate. Which was intolerable. Which was why he was here. Grasping at a straw. And there, surely, was the Meden outpost? He halted to peer through the thin spindrift and saw ten white-clad shapes emerge from their watch-post hides, each holding a weapon. It was too late now for further consideration. He

raised his arms in the universal sign of helplessness and shouted over the howling wind,

'A truce! A truce! I come to talk!' He was crazily tempted to add, 'Take me to your leader!' but restrained himself. It was just as well, for that's what they did, anyway. Eventually.

Onsep Ald, Dar of all the Meden-on-Earth, was not in a good mood. As the week's data unrolled itself across the reader on his desk, that mood grew worse. Things were not going according to plan, and that, by Meden standards, was close to heresy. This planet, observed through an adequate period and seen to be peaceful, co-ordinated and intelligently inhabited, had suddenly transformed itself into a finger-burning brand. It didn't make sense! He scowled at the tail-end of the figures, slapped the reader inert and glared up at his second-in-command, Odar Cylo Lan, who knew better than to show any emotion at all except a wooden-faced readiness to jump whichever way the wind blew.

'We progress backwards, Lan! These damned humans! And now you! By your look you bring no good news!'

The Odar snatched at this slight zephyr gratefully. 'Some good news, Mighty One, and some bad. The good news . . .'

'Save it. Give me the gloom while I'm in the frame of mind for it. This accursed contrary planet. Despite rigorous hygiene our units continue to suffer sickness because of the infernal heat, yet we must make these forays to obtain provisions, on a planet where they have not yet learned how to utilise their snow and ice fields! And the humans keep on devising new and devious ways of cutting at us. What they call guerilla tactics. Sneaking sabotage. Stiff-necked defiance. Even self-destruction rather than sane surrender. And we thought this was a peaceful planet! What bad news can you have that can compare with that? Is it possible?'

'It is possible, Mighty One,' Cylo Lan said regretfully. 'As you know we have now been in occupation for one orbital

revolution, the human "year", and we have now accumulated sufficient data on all relevant aspects of the situation to be able to cast an accurate estimate of future prospects.'

'Not before time! Sweat and blisters, what kept you?'

'They are many races, Mighty Dar,' Cylo Lan pointed out, properly respectful but determined to uphold his position as Chief Minister of the Machine, 'and the planet has an amazing variety of climates and of topological and ecological features. The sheer quantity of data . . .!'

'Very well. Now it is all in and the Machine has spoken. What?'

The Odar cautiously stiffened again into wooden impersonality. 'Three times to eliminate possible error, Mighty Dar, and still the Machine says that, exclusive of some radical unknown, there is a small but significant bias in favour of the humans. Small. Significant. In the long run, they will defeat us.'

All this considered, the Dar took it very well. For a full minute he roared, beat his desk with clenched fists, called down all the curses he could think of on the past, present and future of the obscene humans—and some of those curses were so new to the Odar that he had mental notes of them for future reference—but he made no attack on the handiest person present, the Odar himself, nor on any other Meden, either directly or by innuendo. All things considered, it was an example of masterly control. And then, feeling relieved, Onsep Ald began to think.

'Small but significant, eh? A change in our weapons policy could alter it. We have been too soft so far, perhaps?'

'Not according to the Machine, Mighty One. It has been computed.' Cylo Lan spoke with due reverence, and Ald appreciated it but murmured, 'Just a little escalation, perhaps?'

He knew, as none better, that the Meden were equipped with far more powerful and dreadful weapons than they had so far used. It was understood that such large-scale destructive devices would be used only in emergency. Wasn't

this just such an emergency? The Odar sighed negatively.

'We wish to live on the planet, Mighty One, not render it unfit for life. And the Machine now has sufficient data to predict that if we escalate, the humans will do likewise. Calculations indicate that the same idea is all that restrains *them* from escalation. They, too, have fearsome weapons they have not yet used. Our information also indicates that they, too, have computing and estimating devices similar to our Machine.'

The Dar scowled, snorting out breath that billowed into vapour as it struck the room's atmosphere. 'So it is a stalemate with a small bias in their favour. In the long run, you said. Does the Machine say how long?'

'The estimate is approximately one hundred orbital revolutions.'

Now the Dar stared openly. 'A hundred of their years? Does the Machine actually predict they can endure so long?'

'Also that we will endure,' the Odar sighed, 'but no longer.'

'Well,' Onsep Ald grunted, 'time enough for us to think out many new strategies.' But the comment rang hollow. Onsep Ald was Dar, the Leader, but he was also Meden through and through and no Medenan would ever seriously question the findings of the Machine. A hundred years and failure at the end of it! A bleak prospect and one for which there was small precedent. The Meden technique was strictly formalised. The warrior class were specially selected and trained to go forth, find a suitable planet and subdue it to the point of compliance. Then the sleeping civilian classes were awakened to move into their comfortable niches as masters, with the warriors as token police, but actually in semi-retirement and at ease, to sire and train more warriors, while the civilians sired more of their kind and the whole process would eventually be repeated on some other planet. All strictly according to a master plan—and a struggle dragged out over a hundred years and ending in defeat was no part of that plan at all. He would have to

convene a Council of Ten, in itself a loss of face. But it was just barely possible that out of the Ten might come a wisp of an idea to tilt the balance of probabilities. Perhaps just one fast, smashing blow with a *big* weapon, to shake the opposition rigid? Ald came out of an unhappy reverie to see his second still standing there.

'What? Ah yes, that good news you had. What?'

'Not altogether good, Mighty One,' the Odar was cautious, 'but we have a signal from the perimeter south that there is one lone human, under a flag of truce, seeking to parley. To talk.'

The Dar scowled as he revised his language equivalents. 'A bid to make some kind of arrangement between us? Peace-talk?'

'That's what it sounds like.'

'Sweat and blisters! We went to all the trouble to learn most of their languages especially so that we could convince them we have only one kind of deal in mind. Absolute and unconditional surrender. And now this! A crazy planet, Lan, and crazy people. Thank Meden we have the Machine to help us half-way to understanding them. Has this ... this parley offer been presented to the Machine, incidentally?'

'Of course, Mighty One. No comment. Insufficient data.'

'Yes. Well, a mere puff of vapour helps to show the direction of the wind and we are in no position to ignore so much as a single snowflake. Have the human checked out and brought here.'

The Odar departed obediently, leaving Onsep Ald to brood alone. A peace offer. A deal! It was first law in Meden training that one did *not* deal with native inhabitants when taking over their planet. One reduced them to helpless surrender and then exploited them. A deal, indeed! Still, the small but significant bias was *their* way. It had to be altered.

Caswell got up from the hard seat in the small cell-like room they had shut him up in and again started to jog,

flap his arms and breathe deeply in a desperate effort to get warm. He had been waiting over three hours and that was a hopeful sign, but the cold was making it hard to believe. Out of all the data he had, he knew the Meden to be so nearly human as to require expert biological study to pinpoint the differences. Apart from the fact that they enjoyed and were comfortable at an ambient temperature some ten degrees above freezing point. That one was not only obvious, it was slowly stealing away what little confidence he had left. Why, he wondered, was the military mind always so rigidly set against comfort, whether human or Meden? Ten degrees Centigrade would have been comfortable for them—it would still have been bitter for him—but this cell was actually on the frost-mark!

Even when his cell-door opened to reveal an escort and he was given the order to march, the passages and corridors were no better. And thinking habits die hard. He had expected the chambers of the head-man to be warmer, possibly even comfortable, but they weren't. As he was routinely being made known to the Dar, and the Odar, and then the Council of Ten, the chamber swirled with vaporising breath. He could have done without the distraction. These people looked so normal, so human, even at ease, in this ice-box? He shivered despite his furs and his insulex underwear.

'I'm cold,' he said, knowing that he couldn't possibly think straight all the while he was shaking. 'Is there anything you can do to help that?'

The Dar nodded sternly. 'We know that your kind are in the habit of drinking infusions of herbs and powders in boiling water,' he said. 'A quantity of such drink has been made ready for you.'

Caswell managed to hide his surprise and suspicion of the steaming metal jug and 'captured' cup. It smelled and tasted like passable coffee. He was not to know that the Dar, being the Great Leader, had not so far come face to face with a living, breathing human. That had been left to underlings until now, now that the Dar was desperate for that little

wisp of vapour in the breeze. So, together with the rest of the Ten, Ald watched in fascination mixed with awe as Caswell sipped the near-boiling coffee and appeared to enjoy it.

'You have come,' he said, after a respectful interval, 'with talk of peace offers between us. That is if I understand and speak your language correctly?'

'Right on both counts.'

'Very well. It is not the Meden way to make any kind of agreements with subservient races except those which we formulate and impose. But we are curious. We wish to know how your minds work. First then, are you of authority? Do you speak for all, or only yourself?'

'That's difficult.' Caswell looked at it a moment. 'Nobody speaks for all, with us. We have majorities, minorities and individuals. Everybody is entitled to an opinion and a point of view. I speak for me, but I also speak for a whole lot of other people who think the way I do.'

'I would find that hopelessly confusing,' Ald admitted.

'Happens to us sometimes, too. So we have machines to help, machines that calculate odds and percentages, using data and trend analysis, machines which can predict the most probable outcome of almost anything, provided we can get the data in there. But you'll understand that. It's our information that you also have such machines.'

'Only one!' the Dar said solemnly. 'Only one. The Machine. It contains all relevant data. It provides all logical answers. Yours?'

'Not *that* good,' Caswell admitted, but, computer-man to the core, he felt bound to add, 'We're getting along that way, though. We have a master machine, now, that is a beaut. That's really why I'm here.' His momentary glow of enthusiasm passed. 'You say you don't talk peace-terms, ever?'

No Meden ever got to be Dar without acquiring a good layer of philosophy over his native intelligence. Onsep Ald studied Caswell shrewdly. 'The Meden way is like this, Earthman Caswell. Our home planet is very like this Earth

of yours. Long ago we learned how to send ships into space, how to arm and equip them to overcome any opposition. From time to time, when we have too many mouths to feed, too many heads to count, we build a fleet and send away those we cannot keep. We have such a company with us now, asleep, waiting for the time when you have been subdued and are willing to serve. That is how it will be. You will serve *us*! We do not deal with others as equals, ever! Is that understood?'

'Plain enough.' Caswell sighed. 'It was worth a try.'

'To try what?'

'I told you about the Master machine, didn't I? Well, by now we have enough data in there to predict the outcome of this invasion of yours. It's not one hundred per cent accurate, naturally, but close enough for us.'

'That I can understand.' The Dar was suddenly hopeful, but hid it. 'Your machine tells you that you will lose, so . . .'

'No no! That's just the hell of it. Our machine predicts that we will win!'

'Hah!' One of the Ten so far forgot his dignity as to snort aloud. 'You think you can defeat us?'

'Put it this way,' Caswell looked at his interruptor and then back to Ald. 'We figure you have a lot of weapon-power you're not using. So have we. Same reason on both sides. We live here. You *want* to live here. Neither of us wants suicide, the ecosphere sizzling with radio-activity, or so burned and bleached by chemicals that life is impossible. So it's a limited war, right? But we live here. We know the place and all its tricks. And we outnumber you millions to one. So, in the long run, we're going to win. No doubt about that. The machine says so, and you can't argue against that.'

Ald raised a palm to quell what looked like further excited interruptions from the Council. One phrase rang a bell. 'In the long run.' He singled out his Odar with a bleak eye. 'Before we go any further we will have insurance. We will be satisfied that this is the truth and not some subtle trick. Bring the detector.'

Caswell eyed apprehensively but with interest the machine console that appeared on silent wheels. Its attendants made for him with obvious intent and he submitted, not having any choice.

'We have a gadget something like that,' he offered. 'We call it a polygraph. Very commonly called a lie-detector. It isn't, of course.'

'This one is,' Ald assured him, and by the time all the connections had been made and checked out, Caswell was prepared to believe it. The machine operator arranged twin read-outs, one for himself, the other where the Council could watch it.

'Speak some truths,' he commanded, and Caswell thought a moment.

'I am human,' he said. 'Adult. Male. Dark brown in colour. Weigh about one-fifty. Stand five-eleven. Wearing a fur suit . . .'

'Enough. Now some untruths of a similar type.'

'I'm pale pink, a little girl aged eight with long yellow hair. I'm three feet tall, wearing a blue dress and blue ribbons in my hair.'

The operator put up a hand, turned to bow to the Dar and settle by his controls. Onsep Ald settled back in his chair.

'We did not,' he said, 'settle the question of your authority to speak. We will do that now.'

Caswell shrugged and recited his name, qualifications and his post as head of programme and analysis of the United Earth War-Simulation and Strategic Computer Network, while the Dar kept his eye on the read-out.

'And your purpose here?'

'To try and do a deal between us.'

'Yet your data must surely show that we do not deal?'

'Right, but it was worth a try.'

Ald frowned at that but kept patient. 'And you say your machine predicts the final victory will go to you?'

'Right. In the long run.'

Ald lost his patience. 'You know—believe—that you will

win and yet you come here with peace offers that you know we will not hear? Are you then insane?'

'I don't think so,' Caswell answered, and, for what it was worth, that showed up true on the machine too. Onsep Ald blew vapour disgustedly, then scowled, grew curious, then cunning.

'Tell me why you are here. The real reason?'

Caswell concealed his relief, hoping it wouldn't show anything odd on the instruments. 'It's this way,' he said, gathering his ideas. 'We humans have been fighting each other now for a long time. We are pretty good at war. One way or another there has been a war of some kind, somewhere on this planet of ours, throughout recorded history, for at least five thousand years, probably longer than that. So long, in fact, that we had a queer kind of twisted pride in it. We glorified warriors, remembered battles, counted up our glorious dead like so many score-cards of merit. We expended more money, time and ingenuity on war and weapons than on any other activity there was. Our children played with toy soldiers and toy weapons of war. Our retired and senile war-leaders also played with toy soldiers and toy weapons of war. Almost the whole of our technological spin-off came as the result of war. In fact the very computer network that is my job had its beginnings in "brain" machines that started as war-weapons. And that was all true, up to about thirty years ago. And then—it seemed like overnight—we found we were hanging on the edge by our finger-nails!'

Onsep Ald looked puzzled, so Caswell hastened to explain.

'We found we were talking about the last war. The end. The finish of everything. We had weapons so big and powerful and dirty that no one could win this one. Just one more and it was all over, for ever.'

'Yet you are still here?' Ald suggested.

'Right. Because while we took a breath to look at *that* answer, we found something else. That war was irrelevant. It didn't solve any problems. It just smashed them. And that

while we had been so busy blasting, burning and breaking up our war-problem, another kind of enemy had grown up. Not the kind you can fight that way. Pollution. Spoliation. Waste. Over-population. Waste . . . we were hip-deep in it. Of all kinds. We live here. We still live here . . . because, about thirty years ago, we grew up. We tried figuring out other ways of settling things. We *had* to. And we succeeded, in bits and pieces and with hard work. Not easy. But we found several new ways, new solutions. And we have been working them for thirty years. And we have grown to like it.'

Caswell stopped to sigh, to eye the assembled Ten, to wonder if he was getting across to them. 'It would take me all day to tell you all the ways we are better off by having no more fears, no more destruction, no more hysteria, no more waste of precious assets by making pointless and destructive machines. We have grown to like it. We can see a thousand more ways of progress ahead. And then—you came.'

'And you remembered how to fight.' The Dar nodded as certain things became clear to him. But there were still obscurities.

'We remembered,' said Caswell bitterly, 'but we also remember peace. When our predictor told us that the best we could hope for was a long war, about a hundred years of it, before we could expect victory . . .'

'Your Machine mentioned that figure? One hundred years?'

'Right. And it just is not worth it. As I say, we remember peace. We like it. So that's why I'm here. To try for a treaty, sure. It was worth a try. But if that failed—all right—to offer surrender and find out what your terms are. Anything is better than war—again!'

Ald was completely baffled. He eyed the Machine, this part of it. So too did every member of the Ten. Then they stared at each other. They knew that Caswell spoke true. It said so, right there on the instrument. But it was a truth that Ald just could not believe. To fight and win, that was

good. To fight and lose—was very bad. But to be able to win—and yet surrender—was unthinkable! An exchange of glances with the Council told him that they shared the same shattered unbelief. There could be only one answer, the answer that came straight out of Meden first-law. 'Never deal with the local inhabitants. *'Never!* And hadn't he himself said this was a crazy planet with crazy people? He made his decision fast.

'This interview is concluded. Return that one whence he came, back to his own kind!'

'But what about terms?' Caswell asked. 'What do I tell . . .?'

He might as well have talked to the snow. In short order he was disconnected from the Machine and unceremoniously sent back to the outpost, there to find his baffled way across snow and ice to the human fort he had started from, to be warmed and fed and flown back to his immediate superior.

He confronted General Osborne apologetically, with a sense of having failed. 'I just don't understand it,' he confessed. 'I told them the way it was, that we couldn't face another century of war, that we wanted to give up, that we'd had enough. You'd think they would jump at it! But they just threw me out!'

'You're sure they believed you?'

'Positive. They tied me into that lie-detector machine of theirs, that one the prisoners have told us about. They knew, all right.'

'Yes,' Osborne smiled kindly. 'It needed that. It must have been hard for them to believe that we would lay down our arms, just like that. When we *could* win, if we kept on.'

'I told them all that,' Caswell mumbled. 'I just don't understand it at all. Complete failure!'

'Don't worry about it.' Osborne was still kind. 'It was a gamble, anyway. You did your best.'

Within forty-eight hours all Meden forces had pulled in tight to either ice-cap. Eight hours after that the dark ships

lifted off and went away without a word. General Osborne was very relieved to be able to report this news to World-President Kolodin himself in person.

'It was a gamble,' he admitted. 'But worth trying. I didn't fancy a century of constant warfare either.'

'Now *I* don't understand,' Kolodin confessed. 'You say Dr. Caswell genuinely intended offering total surrender?'

'Genuine for him, yes. He's a pacifist all the way through. He is also a damned fine computer-man. But there are other kinds of computers.' Osborne touched his head significantly. 'I'm old enough to have had military training in the old style. One of the things they tell you is "Try to think into the enemy's pattern." Computers can handle statistical strategy but they're not much good at personality problems. The Meden believe in conquest by war and then subjugation by force. They also believe implicitly in their Machine. That much we knew. From their limited observations they knew we were a peaceful planet. They found out different, fast, and that must have shaken them a bit. So, when I heard Caswell arguing, as he had a right to do, that we would be better off if we surrendered, it struck me we had a chance to throw them something they would never believe at all!'

'Ah! I begin to see. It was all genuine, then?'

'That was the beauty of it. I've read up the record on pacifists. I don't understand them, at all, but I do know the way they act. Anything, to them, is better than war. The Meden wouldn't understand that. They also wouldn't understand how a one hundred per cent pacifist could at the same time be responsible for the working of the War-Simulator and Predictor—just a computation problem to Caswell. And, when I suggested it to him, he was all afire to volunteer. He firmly believed he was speaking on behalf of ... no, he *was* speaking on behalf of all those who think the way he does. So he was the genuine article, all the way down. Their machine said so. And they had to believe their machine.

'You gambled yourself out of a job, General.'

'In a way. But it was worth it. Caswell is right on one thing. The last thirty years have been pleasant. And now I can get back to that Central Australia Irrigation problem I was working on. You really need an army organisation there . . .'

FIRST LIGHT ON A DARKLING PLAIN

by

JOSEPH GREEN

In a backward but slowly developing culture, the truth could be a dangerous ploy to adopt for personal gain, especially where religion is involved—but perhaps the whole philosophy might be at fault.

FIRST LIGHT ON A DARKLING PLAIN

A blackness almost tangible, real, an assault on the senses ... streaks of white appeared, shot off towards infinity, faded ... streamers of light glowed yellow, flew past, coalesced ahead into burning golden globes ... steadied, solidified, grew ... he was rushing towards them ... the lights swelled, brightened ... and gradually dispelled the darkness as Araman's vision cleared and he slowly recovered from the intense dizziness that had suddenly overcome him. He was clinging to the tunnel wall, struggling to stay erect, and the lights on which his eyes had focused were two of the forced-draught oil lanterns he had designed, to light this tunnel deep in the heart of the copper mountain.

'Are you all right, sir?' asked Suko, alarm in his voice. The young apprentice warrior had an anxious hand stretched towards the older man's shoulder, but had not quite dared break taboo and touch him. Araman brought his still unsteady gaze to the young man's face and saw genuine concern. He waited, feeling his strength slowly returning. After a moment he was able to stand unaided and moved away from the wall. 'Yes, quite all right,' he said aloud, wondering what had made him that ill without warning.

'Ware the wagon!' called a loud voice as they resumed walking down the steep tunnel slope. Araman raised his head and saw a four-wheeled wooden mining cart just ahead, a small man crouched on a fragile platform at its head. The driver had stopped his vehicle when he saw Araman leaning helpless against the tunnel wall, Suko unable to support his sacrosanct body.

The two men stepped to the right and mounted the

narrow shelf that paralleled the twin tracks on which the cart rode, bending to avoid the low ceiling. The driver released the brake and the long wooden tongue that extended ahead of the cart slowly urged it into motion. The tongue was attached to a tilted metal bar that disappeared through a sealing flap into a twelve-inch bronze pipe, centred between the rails. Some force within the pipe pulled the slanted bar and the attached ore-filled cart up the sharp slope towards the surface.

Suko shook his head in bewilderment as they walked to the head of the mine, where four sweating men with picks, hammers and wedges were dislodging the rich copper ore. Two others with shovels moved it back out of the way, accumulating a pile for the cart. They were also sweating profusely. Araman stepped to the opposite side of the tunnel, where a smaller pipe made of hollow reed lay just outside the tracks and placed a hand over the open end. To his experienced touch the airflow seemed weak; he made a note to have the leather ring on the piston replaced when they returned to the surface.

'Master, I can understand why the fresh air flows down into the mine,' said Suko respectfully as Araman straightened up. 'I have seen the device you made and understand how the air-tight piston and the flaps that open and close cause the air to be pushed into the reed pipe. But I cannot understand why the piston in the bronze one pulls the cart with such force, when the pumping device on the surface pulls air *out* of the pipe!'

Araman smiled slightly. He had tried to explain the vacuum principle to Suko before, with little success. Forced air pumping was close enough to moving air by a fan for the younger man's comprehension, but the great power supplied by the weight of air behind a piston and a vacuum in front was beyond him.

'Do not concern yourself now; you will learn these mysteries when you have finished your time as a warrior and enter your second period of studies,' Araman said kindly. He bent to examine some of the fresh ore, then moved to

the head of the cut. The workmen respectfully moved aside, glad enough for the chance to rest. He examined the wall carefully, moving slowly across the widening face. The information he had been given was correct; the copper vein was dividing and they would shortly have two crews at work. This was good news, but it also brought problems. One crew supplied all the ore the cart could haul away in half an hour and that was the minimum time needed to restore the vacuum after each run. If they doubled the output . . . and suddenly he had an idea, and smiled as the elegant simplicity of it made success seem certain. For doubled output they would use double carts; a second could be attached to the first. The vacuum would need to be increased for the heavier load, but that was a relatively simple matter of installing another pump parallel with the existing one. And the second pump was already under construction, it having been ordered by the Avatar Bulgaruh for the second mine just getting started around the shoulder of the copper mountain. That would mean putting his foundry crew to work building a third, but they were experienced now and should be through within two weeks . . .

Araman turned away and started back for the surface, his mind busy with plans. Suko hurried after him, walking a respectful distance behind.

Half-way up the three hundred feet of steep slope to the surface they met the cart returning, its descent slowed by the hidden piston creating anew part of the vacuum that had propelled it upward. They again mounted the ledge to let it pass. Araman found himself slightly winded when at last they reached the surface and stepped out into the bluish light of Great Zulsto, now starting to sink towards the horizon. He automatically made the placating gesture owed the greatest of gods, then gave the duty crew orders to examine the airpump piston at shift change; he expected them to find a split in the greased leather.

An errant breeze whipped around the shoulder of the mountain, bringing him a blast of heat from the foundry. He glanced at the long, low, open-sided building, where a

busy roar of fans and clanging of hammers testified that the bronze being produced was assuming the shape of swords, ploughs, pipes, and many other useful articles. Establishing the foundry at the mouth of the mine had been his idea also. The Great Avatar had not liked seeing the weapons shop move from his City of God to the outlands, but the time saved in ore transportation had almost doubled output. The comparatively small quantities of tin needed for bronze production were easily brought in by cart. Soon they could satisfy even Bulgaruh's voracious appetite for new weaponry, and then perhaps get on with the task of producing the far more productive tools needed by the farmers and artisans.

Araman detoured around the giant *balobeast* just outside the mine entrance, patiently trudging in an endless circle whose radius was determined by the long beam it pulled. He walked to the circle's centre to examine his first major invention. The great gear wheel, which the *balobeast*'s huge muscles and the leverage of the long beam spun at a steady rate, was showing signs of wear; in another month it would need replacement. The two smaller reduction gears connected at either side, one of which powered the mine air pump and the other the vacuum piston, were even more worn, but he had spares in stock for them; the larger power wheel would have to be a new casting.

Araman walked clear of the circle while the *balobeast* was on the opposite side and turned towards the foundry. From two basic ingredients already well known, air and bronze, he had created a production system that would soon make the Annish the richest people in the world. No one else could produce tools and weapons on this scale. Their one weakness was a lack of tin and the Great Avatar was worried about the trade agreement with the Isoldug tribe that supplied it. Araman knew Bulgaruh was seriously thinking of turning on them and taking their mines by force, but he hoped to persuade him out of that idea. The thought of turning peaceful trading partners into subjects did not appeal to him.

The Master Engineer walked towards his small office, where he kept two other apprentice warriors busy drawing plans for new projects. He was still some distance from the door when a dusty riding *balobeast* topped the last rise on the road to the City of God; the rider was pushing the animal hard. Araman paused and after a moment was able to identify the small form. Apprehension clutched at his heart; it was his twelve-year-old son, Pero.

The youngster spotted his father at the same time and whipped his mount into a jarring trot. A moment later he slid to the ground and rushed through the formality of kneeling at his sire's feet.

'What brings you here in such haste, first-born?' Araman asked gently as the boy rose and rushed to embrace him, a privilege accorded only to those of equal blood.

'Father!' the boy gasped, terror lingering just beneath the surface of dark brown eyes. 'It's—it's mother! She—she read your papers yesterday, several of them, and this morning . . . she turned them over to the Avatar Bulgaruh! The temple guards came to arrest you for sacrilege! We must flee!'

Araman felt his breath catch in his throat. His private papers, on which he had lavished his most intimate thoughts . . . ideas on forms of government, social order, religion, the office of Great Avatar . . . thoughts never meant for public display. Most were less than reverential of existing institutions and the one on religion could cost him his head. To state flatly that Great Zulsto was not King of all the Heavens, that faint Zan, so pale and wan in the distance, was actually much larger . . . blasphemy of that sort he kept to himself, no matter how often his calculations proved him correct. And to think that he had personally taught his wife, Kristella, to read!

Araman's attention returned to his son, waiting impatiently on his father's will. 'Do you know why your mother turned my papers over to Bulgaruh?' he asked.

The boy's face clouded. 'She was praying to Great Zulsto this morning when she began crying, saying she was

wicked to keep the truth from him, that her children would be eaten by demons. I did not know what she meant, but later I saw her leave your workroom with many papers and at noon the temple guards came and took all the rest. I hid and came to warn you.'

So the final break had come, sooner than he had thought possible and far ahead of the time he would have preferred. Now his voice was between fleeing and taking a chance that enough soldiers would follow him to make victory over Bulgaruh possible.

'Suko!' he called to his aide and gave fast but clear instructions. Suko nodded and left; his memory for battle orders was far better than his understanding of vacuums. Araman dispatched a nearby slave to summon the local commander and began planning the coming campaign in his head. Bulgaruh's first objective would be to seize the foundry; the ability to produce weapons would determine the winner if the two sides were even in numbers. This garrison must be sworn to him and left here. The closest regiment of whose loyalty he could be certain was stationed along the east border, a day's march to the south. His friend Tantriken commanded a small army now on its way back from a victorious campaign against the barbarous Killikazees to the north and if they started a forced march that army could be inside the borders tomorrow . . .

By the time the blue ball of Zulsto sank below the horizon, bringing on the cooler breezes that distant yellow Zan was unable to warm, Araman was ready to leave. He had decided to ride to Tantriken and confirm his loyalty himself, though he had already sent word to the other generals whose support he expected that Tantriken had declared for him. He felt certain that his forces would almost match those of Bulgaruh.

Araman had had little time to think about Kristella, but her dark, tormented face began to haunt him as he and a select personal guard rode hard for the north, their way clearly lighted by the faint yellow rays of Zan. Pero had

wanted to come, but he was still a little young for such hard riding. Araman had long known that his wife was deeply troubled in mind about his beliefs. On the few occasions when he had tried to explain some of his theories she had protested immediately when his words went against the sacred dogma. The proofs of mathematics meant nothing to her. She believed implicitly in a longer life after this one and in the divine power of the Great Avatar to send her soul to heaven or to the jaws of demons.

A few days past Kristella had walked into his workroom, where he had suspended a large yellow, smaller blue, and very tiny green ball on movable strings hanging from the ceiling. She seemed interested when he explained that with these he could illustrate how the world, Zulsto and Zan moved through the heavens, bringing on the seasons. He showed her how their round home swung in a constant circle around Zulsto and how Zulsto itself swung in a larger, much slower circle around Zan. He pointed out that all three bodies were aligned in a single plane, the reason Zan disappeared for a time each year when Zulsto came between their world and the more distant star. He showed her how their globe turned on its axis 180 times during each great circle around Zulsto, bringing day and night, and how the blue sun itself swung around the larger Zan only once in every eight years.

Kristella watched intently and Araman honestly thought he was getting through to her. Then she pointed with a shaking finger and asked, 'Do you mean that weak Zan is larger than Great Zulsto? And that our—our world *turns*?'

'Both are true. That is why Zan disappears below the horizon ahead of Zulsto during the spring, when the world is here'—he positioned the small green ball ahead of Zulsto and swinging towards Zan in its orbit—'and Zulsto disappears first during the fall, when our world is here,' he swung the green ball to the opposite side of Zulsto, moving away from the larger yellow sun. 'And when we are furthest away from Zan and drawing most of our heat from Zulsto, we have winter. When we are warmed by both

Zulsto and Zan,' he moved the green ball in its circle around Zulsto, until it was between the two suns, 'we have summer.' He stopped, reasonably certain that this simple, graphic explanation of the seasons and the reason Zulsto and Zan alternated in disappearing first below the horizon, had made his point clear.

Araman's wife of fifteen years only looked troubled and said, 'But—but anyone can see that Zan is much smaller than Zulsto and everyone knows small Zan disappears each year when it is swallowed by Zulsto, to have its dim fires renewed in the belly of the Great God! And each day we see both Gods moving across the sky, swift Zulsto outpacing weak Zan, as it has always been. How can you say these things?'

Araman sighed and gave up; she had not understood a single word. For a mad moment, before he realised his wife's faith in what she had been taught was invincible, he had been considering telling her some of his other thoughts. He had wanted to explain his conviction that diseases were brought to men by the bites of small poisonous creatures, not visitations by the gods. He wanted to tell her that he and Bulgaruh had studied together as children and the Avatar had no supernatural powers. Ambition had caused the portly young man the child had become to enter the priesthood, ambition had driven him relentlessly up the ranks until he reached the top and became Zulsto's living representative among men. But he could hardly condemn Bulgaruh for that; Araman was equally ambitious. He had taken the secular route, twenty years in the army, a general's rank, and automatic appointment as district administrator on retirement. Now as Minister of State he was the highest secular official in the country, but still subject to the authority of the Avatar.

Araman knew the people revered him for his many contributions to their welfare; they did not fear him as they did Bulgaruh. Araman had brought the Annish the greatest prosperity they had known; Bulgaruh held their souls in thrall.

Above all else Araman had wanted to tell Kristella that a man should be free to think and act for himself, not accept direction for every waking thought and action from the priests, but that would have been more than she could take. In the end he had said nothing and she had left his workroom disturbed but quiet. He had not dreamed she would betray his impious thoughts to Bulgaruh.

In a way Araman was glad this irreversible break had occurred. It had long been his conviction that people who knew the truth could act in a sensible manner. Religion was essentially an irrational institution, where faith held supremacy over reason. Bulgaruh and all other dictators, whether cloaking themselves in the guise of the church or ruling with naked force, always justified their actions with claims that ignorant people could not rule themselves. Araman had slowly come to the opposite conviction and now yearned to put his theories on democratic rule into practice. If he and his partisans were successful they would learn if he was right. Araman intended to take away all secular power from the priesthood and entrust it to the hands of professional administrators. They in turn would be elected by the people, who would retain the power to remove them from office. It was Araman's belief that the present exercise of power, from the top downward, did not inspire the people to their best efforts; a two-way flow would result in far more creative contributions at the lower levels of society.

Both men and mounts were exhausted by the time faint Zan sank below the horizon, bringing on the pitch blackness of a cloudy night. They rested for six hours without making a real camp and when mighty Zulsto rose in blue splendour they were already in their saddles and riding. Before Zan edged over the horizon four hours later they had found Tantriken.

The short and hardy general, soon to leave the soldier class and follow Araman into administrative service, needed little convincing. It was almost as if he had been expecting a revolt against the Avatar and found it only natural that

Araman had chosen to lead it. Tantriken swiftly made truth of Araman's message to the other generals that he was on the side of revolution. His first act was to call a staff meeting to plan strategy. There was no question of the loyalty of his men; soldiers followed where generals led.

After that events moved at dizzying speed. Spies were dispatched to remove the wives and children of higher officers from the city. Tantriken's army bivouacked where it was until an attack could be co-ordinated with the other field commanders, after their pronouncements of loyalty came in. Two thousand men were sent to reinforce the garrison at the foundry. Araman explained the new fighting tactics he wanted adopted to all senior officers and they began drilling their troops. The Master Engineer then started work on the details of the logistics plan that would win the war for them, if that were possible. For the moment he put aside the possibly more difficult task of convincing the bulk of the people, afterwards, that their system of religion was a fraud and their government poor.

Four hectic days later Araman and Tantriken stood on a grassy hill outside the City of God, watching their soldiers steadily advance towards the waiting enemy. They had been disappointed when several generals whose allegiance they expected had chosen to remain with Bulgaruh. Their force numbered only 38,000 soldiers, compared to the Avatar's 44,000. The past days were only a blur in Araman's mind, but at least they had thoroughly coached their men in the tactics that might overcome the Avatar's numerical superiority. It was going to be a close fight.

Tantriken had been elected by the other generals to direct the battle and he operated from his vantage point with the speed and certainty that made him a great commander. A constant stream of messengers, mounted on small, swift *balobeasts*, conveyed his instructions to each field officer. Araman did not agree with all of Tantriken's moves, but he held his peace; advice from former generals was seldom wanted. Instead he concentrated on observing the effect of

the new tactics he had instituted, particularly in the infantry; that was where the battle would be won or lost.

Araman's instructions to the men had been a radical departure from conventional training. Instead of making contact with the enemy and fighting until they fell, the usual fate of soldiers in the front line, the rebels had been carefully coached in defensive combat. Each man, when he engaged an individual opponent, was to defend himself by careful swordplay and ample use of his shield. Unless he was unlucky enough to be cut down a soldier would fight for only a few minutes, during which he would catch his opponent's sword on his own often enough to batter both into scrap bronze. The rebel soldier in the second rank would then advance, while the relieved man ran for the rear and a new sword.

Araman soon saw that Bulgaruh's generals were fighting in the expected classic tradition, including runners constantly delivering new weapons to the fighters in the front lines. And here was where the battle would be decided. He had ordered the foundry to make nothing but swords for the last four days, working around the clock and they had an unusually large supply.

The formations of men slowly shifted back and forth on the dusty plain, now being wetted with blood. When the battle had been joined two hours Araman saw that his strategy was not working as well as he had hoped. Too many of their men were unable to disengage until the enemy soldier had fallen or the rebel himself been cut down. The constant movement of large numbers of soldiers created a confusion not shared by the solidly planted enemy; they fought and died where they stood. The rebel army was being slowly but surely forced back to the base of the low hill from which they watched. He did note that their loss of men seemed to be less than that of the opposition and very seldom did a rebel surrender. The knowledge that he would have to fight for only a few minutes before being relieved was evidently a great morale builder, though that had not been the effect Araman was seeking.

By early afternoon more than half the men on both sides had fallen and now the enemy outnumbered them better than four to three. Good strategy on Tantriken's part, as he steadily shrank the battle lines and formed a defensive square, kept the enemy from full use of his superior strength. It was still obvious that the battle was going rapidly against them.

'My friend, I think your plan has failed,' Tantriken growled at Araman during a brief lull. 'Bulgaruh seems to have swords in plenty.'

'Not so, good Tantriken. I know what was in the royal armoury and have been keeping count, as best I can. The Avatar is now down to his last weapons. If we can hold for another hour . . .'

Tantriken shrugged. 'What choice have we? Bulgaruh is not noted for forgiveness to his enemies. We will fight until they break our front line and then run or die.'

The attempt to breach the rebel centre was already under way. A fresh regiment had moved up and was advancing steadily towards the rebel leaders on their low prominence, moving slowly but certainly through a sea of blood and bodies. If they reached the hill and advanced up it enough to split the defenders in two the outcome of this brief war was certain. If the new regiment could be stopped there was still a chance of victory.

'Tantriken, as you love me, do not change your instructions!' Araman said sharply. His keen eyes had noticed a diminution in runners bearing swords to the fighting men. 'Keep on as we are, even though we lose ground; we shall win in the end.'

Tantriken looked at him with something approaching derision, but made no comment. Another hour of blood and gore dragged by and then Araman said, 'Now I think we shall see a change.'

His words were swiftly confirmed. Some confusion of movement had started in the formerly solid line creeping steadily closer to the hill. Araman watched in satisfaction as the enemy troops suddenly discovered that their supply

of new swords had ended. Their own soldiers, the men in the front line with new weapons, were still ready for battle. And now it was becoming obvious that the strong attack on the rebel centre had been a desperation move on the part of Bulgaruh's generals. They had been aware of their steadily shrinking supply of swords and the unusual tactics of the rebels, who seemed intent on destroying the weapon more than the man. Now they found themselves having to fight with dulled or twisted blades, or draw their daggers; either alternative meant death at the hands of a better-armed opponent.

The collapse came swiftly. The front rank of the new regiment broke, moving back and letting the second line fight as they hurried to the rear in search of swords. The rebels doggedly persevered in destroying weapons, sending the second rank after the first. In another half-hour the attack was broken and shortly after that the soldiers of Bulgaruh were fleeing in confusion.

When their victory became certain Tantriken turned and looked at Araman with a new respect. Only a few thousand of their soldiers were left standing and most of them were wounded or desperately tired, but they had conquered. Tantriken had already given orders to stop killing the fleeing enemy. 'It seems you have proven that the army with the most weapons, not soldiers, wins the battle, my friend,' the general said, 'but it was a close decision.'

Araman was thinking of the thousands of brave men who had died needlessly on this day of death; the slaughter would haunt him the rest of his life. In his mind there was a profound difference between fighting and encircling barbarians and his fellow Annishmen. But he put useless regret behind him and said, 'A thousand more swords and they would have won. And now I know what my next project must be, after we have removed Bulgaruh. We need harder weapons, ones that can be used many times without bending or breaking. I must find a stronger metal than bronze.'

Tantriken smiled slightly. 'You are always seeking the

better, Araman. The day will come when you must be content with that which is.'

Tantriken turned field command over to one of his generals and he and Araman rode for the City of God at the head of a picked crew of cavalry. They had seen the distinctive uniforms of the temple guards in the final battle and knew that the Avatar had no fighting force left. Araman was wondering if he should imprison the man or put him to death. Bulgaruh was dangerous while alive, but execution would make him a martyr. Nor would death kill belief in his godhood, since even gods can die. No, it was best to keep him alive and safely in prison. His obvious lack of supernatural powers would make the truth Araman intended to tell the people more palatable.

They encountered no opposition at the edge of the open city, but huge crowds were in the streets, many of the men carrying sharp bronze tools; evidently Bulgaruh had obtained part of his weaponry from the civilians. It was only a short ride to the central square and the great pyramidal temple that dominated it and they did not have to worry about finding the Avatar. He was waiting for them on the lower steps.

The crowd had flowed into the street after the cavalry, and now pressed around the flanks of the *balobeasts*. Slowly Araman and Tantriken rode to the first waist-high tier of shaped stone blocks, where Bulgaruh, arms folded, stood calmly waiting. The short, plump man was wearing the full panoply of godhead, including the symbol of office, a huge firejewel on his forehead. This unique gem diverted light to his face, keeping the features bathed in a constant shimmer of changing colours. If you did not know a jewel could affect light that way it was very impressive.

Araman started to dismount, then thought better of it and walked his mount forward until he confronted the Avatar on an even height. For a moment the two men stared levelly at each other. Bulgaruh broke the silence by asking, in a loud voice, 'Is it true that you do not seek the jewel of office, Araman, but instead would cast it aside and

leave the people unprotected against the wrath of the gods?'

Bulgaruh was a clever man. There was a collective gasp from the crowd and a sudden rustling as they pressed closer to the soldiers. One of the cavalry drew his sword and threatened a townsman who was pushing against his *balo-beast*. Araman hastily signalled for him to sheath his weapon and turned to answer the Avatar.

'You have read my notes, Bulgaruh. You know I do not believe that any mortal man can be a true son of the gods.'

'I know more than that,' Bulgaruh answered loudly, obviously speaking more to the crowd than to Araman. 'I know that you do not even believe in the gods themselves! You think Mighty Zulsto small and little Zan actually the larger of the two. You say both are only huge balls of fire, not gods at all! More, I know you believe Zan and Zulsto do not move across the sky each day, but that instead our world turns like a child's spinning toy. I know all that you think . . . and I say it is all lies and you are a madman!'

The crowd, which had quieted to hear Bulgaruh, gave a low moan of amazed disbelief. Araman heard the sound of menace in that muted cry and suddenly a strange feeling came over him, a conviction that here, now, was the true climax of this bloody adventure. The planning and battle that had brought him here were only the preliminary steps; Bulgaruh was not yet beaten.

For a brief moment he considered denying the Avatar's charges, taking the jewel of office by force and instituting his reforms from that position of power. But that would be building truth on a base of lies, negating his fundamental belief in the ability of the people to make intelligent choices. Araman knew the strength of his reputation among the Annish. He was the greatest innovator in the history of his people, the one man who could lead them out of the morass of superstition and ignorance in which they lived. They knew him ... and if he had judged correctly they were ready to abandon their gods and follow him into a better life.

'All that you say is true, except that I am no madman,' Araman answered slowly. 'And part of what I say I can prove now, the rest later. First I will demonstrate that you are only a man, Bulgaruh.' Turning to two of the soldiers, who were nervously eyeing the crowd, he ordered, 'Take him prisoner!'

The two men moved forward obediently and as they approached the plump man Araman cried, *'If you are a god then save yourself, Mighty Avatar! Call down the wrath of the heavens upon me and them!'*

'That I shall,' Bulgaruh said grimly and suddenly raised both arms. The jewel of fire sent waves of colour flaming across his face as he bellowed, *'The wrath of Great Zulsto upon you and all your house! I damn you for ever to the jaws of the demons! And you!'* he turned suddenly to the crowd in the square, arms waving ritualistically in the first movement of the Curse of Damnation, *'All who do not show their allegiance to Mighty Zulsto by aiding me are also damned! All who do not spring forward and tear these blasphemers from their mounts shall lie for ever screaming in the jaws of demons! I charge you in the sacred names of god! Kill them! Kill them!'*

The soldiers reached Bulgaruh as he finished and grabbed for his waving arms. *'Kill!'* the Avatar screamed once more, pointing dramatically at Araman. Suddenly the crowd surged forward, pulling the closest soldiers off their mounts, clubbing and stabbing with bronze tools as the armed cavalry fought to hold back a solid wall of flesh. The sight of blood as the flying swords took a quick toll only infuriated the mob. It rolled irresistibly forward, many in the front rank dying, but their bleeding bodies shielding those behind. A *balobeast* went down, screaming shrilly; another was forced against the steps and its thin legs broken. The grasping hands found the soldiers faster than they could be hewed off.

It was over in a minute. The last cavalry went down under a thrown club. Araman and Tantriken had drawn their swords, but they knew it was a useless gesture.

Bulgaruh hopped nimbly backward and climbed to the next level as Araman turned towards him, wanting desperately to at least keep the tyrant's triumph from being a personal one. And then a thrown dagger buried its point in Araman's side, a poorly aimed stone caught him on the hip and a second later a rock from a better aim hit him on the neck. He had time to see Tantriken striking out with his blade, watch a tradesmen fall, observe the thrown hatchet that caught his friend in the neck and then slipped out of the saddle. He knew he was falling towards the unyielding stone, felt the impact as he hit, *and then a sheet of flame flared before his dimming eyes, burning like the wrath of Zulsto. He stood before the fiery splendour, confronting it, naked and unafraid. And then he was moving backwards, retreating into darkness, the great light fading swiftly into faintness, shadow, and finally the blackness of death. He ceased to be.*

Aaron Mann slowly awoke, struggling to push away the clinging veils of sleep. When he gained enough consciousness to remember where he was he made a violent effort and managed to heave himself erect. This brought on a new rush of dizziness, but when it passed he was completely awake. He glanced around the simulation room and saw Dr. Cartier bending over the opposite couch, where 'Bull' Garrett was just struggling back to consciousness.

Aaron remembered his instructions and sat quietly, letting the dream world in which he had just spent an afternoon slowly recede. The primary events were still clear in his mind, but the sensory and secondary memory parts were already fading. And then a wave of bitterness washed over him as he realised the simulator had ruled in Bull's favour. He had lost the debate.

Bull Garrett sat erect and after a moment managed a feeble wave. Aaron forced himself to acknowledge it with a grin, but it felt twisted on his lips. He glanced around at the banks of machinery that completely enclosed the small chamber with the two couches. It was hard to accept that

the experience he had just undergone had not been real. The complex machinery was quiet now, only a few lights blinking steadily on the master control console. He and Bull had worked all morning at that console, programming the debate into the computer banks.

Aaron heard brisk footsteps approaching on the metal floor and the narrow door to the exit opened to admit Professor Schmidt. The rotund little teacher smiled at both of them and said, 'Congratulations, young men; a game well played. Tomorrow we will show the tape to the rest of the class. Not to worry that the simulator decided against you, Aaron; losing the debate will not affect your history marks.'

Aaron got to his feet, a hot protest on his lips. He choked it back, and instead said, 'Professor, I am not satisfied with the simulator's build up. I don't feel that the issue was clearly enough presented to allow the people to make an intelligent choice.'

The teacher's round face grew cold. 'I monitored the entire programme myself, Aaron, and felt that the build up was quite fair. At the climax you were presented as the voice of science and reason, clearly pointing out to the people that Bulgaruh could not be an avatar or possess godly powers, or he would use them to save himself. The reputation you had programmed for yourself was fully as great as the one automatically accorded to the Avatar. Bull made no effort to intrude logic or reason, keeping his appeal for support solely emotional. The simulator decided that a people at the second level of civilisation were not capable of the intelligent choices necessary for self government and turned them against you. I'm afraid you have lost the debate.'

Aaron turned away from the teacher and faced the master console, hands clenched into fists, arms rigid at his sides. He had been certain he was right. Several early Greek city-states, at cultural level three, had had viable democratic governments. He had been a firm believer that democracy could have worked at an even earlier stage of cultural

evolution . . . but the simulator had ruled against him. He stared at the placidly blinking lights on the console, vision blurred by tears of chagrin—and saw a thin plume of blue smoke curling slowly from the rear of the cabinet.

Aaron gave a strangled sound deep in his throat and his opponent and teacher turned, following his gaze. And then a buzzer sounded and a red MALFUNCTION light began blinking on the console. The simulator was out of order.

REAL-TIME WORLD

by

CHRISTOPHER PRIEST

Deprive a community of news about the outside world and it will find a substitute. In this case, on a satellite observatory in space, it developed into a wishfulfilment to know *despite all the attempts to prevent it.*

THIS is not relevant, but it serves to illustrate the pedantic and languid attitude to life we have all developed on the observatory.

The accommodation cabins of the observatory have been built on the periphery, in such a way that each cabin has at least one wall against vacuum. As the laboratory is moved from place to place, structural tensions come out in the form of cracks in the outer shell.

In the cabin I share with my wife Clare, there are twenty-three cracks, each one of which would be capable of evacuating our cabin of its air if it were not periodically checked and re-sealed. This number of cracks is fairly typical; there is no cabin which does not have at least half a dozen.

The largest crack in the wall opened one night while we were asleep and, in spite of the fact that we had rigged elaborate pressure-reduction alarms, we were in an advanced state of hypoxia before we were awakened. That crack affected several other cabins at the same time, and it was after this that there was a move among some of the staff to abandon the accommodation section altogether and sleep in one of the common rooms.

Nothing came of the idea: on the observatory the twin evils of boredom and lethargy go hand in hand.

Thorensen came into my office and dumped a handwritten report on my desk. He is a large, ugly man, with graceless mannerisms. He has participated heavily in the social side of life on the observatory and it is rumoured that he is an alcoholic. No one cares much about these things under normal circumstances, but when Thorensen is drunk he is

boorish and noisy. Ordinarily, he is slow-moving, virtually reactionless.

'Here,' he said. 'Observed reproductive cycle in one of the echinoderms. Don't bother to try to understand it. You'll get the gist.'

'Thanks,' I said. I have grown accustomed to the intellectual snobbery of some of the scientists. I'm the only non-specialist on the observatory. 'Does it have to be dealt with today?'

'Suit yourself. I don't suppose anyone is waiting for it.'

'I'll do it tomorrow.'

'OK.' He turned to leave.

'I've got your daily sheet for you,' I said. 'Do you want it?'

He turned back. 'Let's have it.'

He glanced at it uninterestedly, looking quickly across the two or three lines of print-out. I watched his expression, not sure exactly what I was trying to glean from it. Some of the staff don't read the sheets in my presence, but fold them up, place them in a pocket and read them in private. That is how it was expected they would be read, but not everyone reacts the same.

Thorensen had perhaps less to worry about at home, or less interest.

I waited for him to finish.

Then I said: 'Marriott was in here yesterday. He says that a fire killed seven hundred people in New York.'

Interest came into Thorensen's eyes. 'Yes, I heard that too. Do you know anything more about it?'

'Only what Marriott told me. Apparently it was in a block of apartments. The fire started on the fourth floor and no one above it could escape.'

'Isn't that fascinating? Seven hundred people, just like that.'

'It was a terrible disaster,' I said.

'Yes, yes. Terrible. But not as bad as that . . .' He leaned forward and put the palms of his hands on the far side of my desk. 'Did you hear that? There was a riot somewhere

in South America. Bolivia, I think. They called in troops to deal with it, things got out of hand and nearly two thousand people died.'

This was new to me.

I said: 'Who told you this?'

'One of the others. Norbert, I think.'

'Two thousand,' I said. 'That's fascinating . . .'

Thorensen straightened.

'Anyway, I've got to get back. Will you be down in the bar this evening?'

'Probably,' I said.

When Thorensen had left I looked at the report he had brought in. My function was to absorb the sense of the report, rewrite it into non-technical language as far as possible, then prepare it for transmission back to Earth via the transor. Thorensen's original would then be photostated and returned to him, the copy being filed away in my office until our return to Earth.

I had a dozen other reports outstanding and Thorensen's would have to go to the bottom of the pile. Neither he nor the people on Earth would care when it was sent.

And in any event there was no hurry. The next transor-conjunction was that same evening and it was obvious I wouldn't have it ready by then. The conjunction after this was four weeks away.

Putting aside the report, I went to the door of my office and locked it, switching on the electric sign on the outside which said. TRANSOR ROOM—DO NOT DISTURB. Then I unlocked one of my cabinets and removed from it the rumour dissemination file.

I wrote down: 'Thorensen/New York/700 deaths/apartment building. Ex Marriott/ditto.' Then underneath: 'Thorensen/Bolivia (?)/2000 deaths/riot. Ex Norbert Colston (?).'

As the Bolivian story was a new one to me, I had to conduct a search through the Affectance Quotient 84 files. This would take some time. I had checked out the New

York story the day before and found that it probably related to a fire in an office-building in Boston three days earlier, when 683 people had died. None of them was related in any way to members of the staff of the observatory.

In the AQ 84 files, I searched first through entries for Bolivia. There had been no major riots or public disorders there in the last four weeks. It was possible that the rumour related to an event earlier than this, but not probable. After Bolivia, I tried the other South American countries, but again drew a negative.

There had been a demonstration in Brazil the week before, but only a few people had been injured, and no one killed.

I shifted to Central America and ran similar checks in the various republics there. I chose to discount countries in North America or Europe, since it was not likely that if two thousand people had died, there would be no connection with any of the staff here.

I finally found the reference in Africa; under Tanzania. Nine hundred and sixty people massacred by panicking police when a hunger-march degenerated into a riot. I looked at the transor-report dispassionately, seeing the event as a statistic, another entry in my dissemination file. Before putting away the report, I took a note of the AQ. 27. Comparatively high.

In my rumour dissemination file I wrote: 'Thorensen/ Bolivia . . . read Tanzania? Await confirmation.'

I then added the date, and initialled it.

When I unlocked the office door Clare, my wife, was waiting outside. She was crying.

I have this problem with which I must live: in some respects I'm on my own at the observatory. Let me try to explain that.

If there is a group of people all basically similar, or even if there is a group of individuals making up a coherent and recognisable social unit, then there is companionship. If, on

the other hand, there is no form of intercourse between the individuals, then a different kind of social structure exists. I wouldn't know what to call it, but it certainly does not constitute a unit. Something of the sort happens in big cities: millions of people coexisting on a few hundred square miles of land and yet, with certain exceptions, there is no real unitary construction to their society. Two people can live next door to one another and yet never know each other's name. People living alone in a building full of others can die of loneliness.

But there's another kind of solitude when in a group and that's what is happening to me. It's one of sanity. Or intellect. Or awareness.

In cold factual language: I'm a sane man in an insane society.

But the particular thing is that everyone on the observatory is *individually* just as sane as I am. But collectively, they're not.

Now there's a reason for this, and it accounts for my presence on the observatory. For the benefit of the others I have been given this other work of rewriting their reports and acting in general as press officer.

But the real reason is one of far greater importance. I'm the observer of the observatory.

I watch the staff, I take notes on their behaviour and I channel information about them back to Earth. Not the most desirable of jobs, it may seem.

One of the staff I must observe, spy upon, treat clinically, is my wife.

Clare and I no longer get on with each other. There is nothing tempestuous between us; we've reached a state of acceptance of the mutual hostility and there it stays. I won't dwell on the less pleasant incidents between us. The cabin-walls of the accommodation section are thin and any hatred to be vented must be done in near-silence. The observatory has made us like this; we are a product of our environment. Before the observatory we lived together in peace—perhaps when we get back home we may once

more do so. But for the moment that is how it is.

I have said enough.

But Clare was crying . . . and she had come to me.

I opened the door, let her in.

'Dan,' she said, 'it's terrible about those children.'

It registered at once. When Clare comes to me in my office, I do not know straight away whether she comes as a wife or as a member of the staff. This time, she was the latter.

'I know, I know,' I said, as soothingly as I could manage. 'But they will be doing everything they can.'

'I feel so *helpless* here. If only I could do something.'

'How are the others taking the news?'

She shrugged. 'Melinda told me. She seemed to be very upset. But not——'

'Not as much as you? But then she hasn't been so involved with children.' I had guessed that when the story of the refugees reached Clare it would upset her. Before coming to the observatory with me she had been a child-care welfare officer. Now she had to be content with study of the humanoid children outside.

'I hope the people responsible are satisfied,' she said.

'Have you heard any more details?' I prompted her.

'No. But Melinda said that Jackson, the doctor who works with her, told her that the New Zealand authorities were calling in the United Nations.'

I nodded. I'd heard this earlier in the day from Clifford Makin, the arachnologist. I had expected the further detail to be in full currency by about this time.

I said: 'You heard about that fire in New York?'

'No?'

I told her about it, in substantially the same detail as Thorensen had told me.

When I'd finished she stood still for a while, her head bent forward.

'I wish we could go home,' she said in the end. I had my wife in the office now.

I said: 'So do I. Just as soon as we finish . . .'

She glared at me. I knew as well as she that the progress of the work had no bearing on the length of our stay here. And in any case, I was doing nothing to further that work. Only I, of all the staff, contribute nothing to the progress.

'Forget it, Dan,' she said. 'There's nothing at home for either of us now.'

'What makes you say that?'

'If you don't know, I'm not going to spell it out for you.'

A veiled reference to our crumbling relationship. I wondered, as I had done many times before, if even a break with the closed environment of the observatory would ever restore what we had had.

'All right,' I said, 'let's leave it at that.'

'Anyway, with all these things we hear, I'm not sure I want to go back.'

'Not ever?'

'I don't know. I hear—I hear that things on Earth are worse, far worse, than we are told about.'

I found myself breaking out of my role as husband, became the observer once again.

'What do you mean? That there's some form of censorship?'

She nodded. 'Only I don't see what harm it would do for us to know what is going on.'

'Well, that's your best argument against censorship.'

She nodded again.

I had on my desk a small pile of unclaimed daily sheets. I would leave the pile to mount up for a few days, then take them round myself and deliver them. I wasn't too keen on the idea of delivering them. The attitude of several of the staff towards the sheets was casual anyway, and if they got the idea I would deliver them then they wouldn't collect them at all.

The worst offender in this respect was Mike Querrel, who had never, to my knowledge, come of his own accord to collect his sheets. A gloomy bachelor whose parents had

died while he was still a child, he had told me once that he had nothing at home of which to receive news, so why did he have to bother about the sheets.

True enough, his daily sheets had the least news on them of anybody's, but there was no point in the experiment unless everyone took their sheets.

I sifted through the pile before me. There were eleven of Mike's, two or three others which had not been claimed and those of Sebastian, the only man who had so far died on the Observatory. Sebastian's death had been one of the factors that had gone unanticipated, and there was no way for me to deprogramme the computer on board. On the real-time simulator back on Earth, Sebastian's identity had been removed.

Once every twenty-four hours the computer would print out the daily news-sheets, one for each person on board. The staff had been told that the news came up every day through the transor, but this was not the truth.

The news came in once in every four weeks, was fed direct into the computer, and then released in twenty-nine daily instalments, roughly in the order in which it had occurred. This day, as I have said, there was to be another transor-conjunction and the next four weeks' news would arrive. I would have access to the unprocessed bulk of it at once if I wished, but for the rest of the staff the news would have to trickle out at daily intervals.

There was no way of short-circuiting the system; even I could not get out of the computer the personal sheets of the 'next' day until the appropriate time.

Every person on board, including myself, had one sheet of personalised news, once a day, every day.

I decided to clear the accumulated pile and took them around the observatory, delivering them as necessary. Then I returned to my office.

Some time before the expedition in the observatory had been conceived, a man named Tolneuve had invented a system for classifying news of current events into a graded table of what he called Affectance Quotients. This ran from

nought to one hundred; from nil affectance to complete affectance.

Tolneuve's argument was that in the normal course news of current affairs had little relevance—or affectance—to personal life. One could read of distant wars, or social disturbances, or disasters, or one could experience them vicariously through the visual media, but one was not *affected* in any way.

On the other hand, some items of news did have relevance, even if it was only of a very long term, or in a very indirect way.

Tolneuve once cited an example of this.

While one's life could be measurably affected by the news, say, of the demise of a well-loved and well-endowed uncle, it would not be so easy to estimate the impact of a rise in the price of some industrial commodity such as manganese. If the cost of living of one individual could be ultimately affected and measured, then the same could be said of everybody's. Large numbers of people would have low AQs for most news and only a small proportion of the population would have very high ones.

Tolneuve acknowledged this and derived his graded table. Applied to an individual whose entire social situation could be established, it was possible to apply an AQ to any item of news. To one man, the rich uncle's legacy might produce a 95 per cent AQ or higher; more expensive manganese a 10 per cent AQ or lower. To another man (for example, a distant relative of the first man who was a broker in industrial metals) the same two items might have exactly opposite percentages.

It was an almost entirely useless piece of sociological research. It was played around with for a year or two by the news-dissemination agencies, then put aside. It just had no practical use.

But then the observatory was conceived and a use for it was found.

It would be secondary to a main purpose of the scientific work to be conducted, but an entirely closed social struc-

ture composed of intelligent and trained personnel, and one depending exclusively on one source for its news of the outside world, would be a perfect way of putting to experimental use what Tolneuve had theorised.

The intention of the scheme was specific: what, *precisely* what, would be the effect on a community deprived of news?

Or in another sense: does an awareness of current events really matter?

It was the kind of social experiment which in absolute terms would not be worthwhile unless other circumstances suited it. In the case of the Joliot-Curie observatory, it was decided they would. Provided that such a scheme did not interfere with the normal work of the scientists, there could be no possible objection.

How the details were worked out is not fully known to me, as I was brought in as a collaborator only towards the end. However, what was done was as follows.

During the selection of the observatory personnel, detailed dossiers on each potential member were raised. At the end of the selections, those of the people not joining the staff were destroyed. The others were analysed by computer, and Tolneuve ratings established for each person.

During training for the mission, dummy runs were carried out, but the scheme was not properly initiated until the laboratory was in full operation. Then, when we began our observations, the system of personalised news-sheets was introduced and the experiment began.

The news-sheet of each person carried only that news which had an AQ of 85 per cent or higher, for that person. All other news with a lower percentage was printed out on to what I came to call the 84 file, and stored in my office.

Thus, each person received information on external events only to a level of high personal concern. Family news came through, and local news; word of social changes in their country of origin, or where they had made their home. And news from Earth, of course, of the reactions to the work of the observatory.

But more general information—national or international events, sporting results, disasters, political changes, criminal news—passed into the 84 file.

Of all the people on the observatory only 1 had access to that information. My function was to record what happened, if anything, and pass the information back to Earth. Because Tolneuve's theory was that people raised in a high-stimulus environment became a product of their society and could not keep their orientation without some knowledge of what was outside their sphere.

I often sought, and found, companionship with Mike Querrel. Although he held a Master's degree in bacteriology and was a part of the micro-organism survey team, he spent much of his time working on the central power generators. This gave him something of the manner of a non-specialist, and in fact he and I managed to get along surprisingly well.

On this day, though, Querrel was in one of his moods of deliberate reticence. When I had passed him his accumulated pile of news-sheets, he took them from me and turned away without comment.

'Is anything wrong, Mike?' I said.

'No. But this place gets me down.'

'It affects all of us.'

'You too?'

I nodded.

'That's odd. I didn't think you were the type.'

I said: 'That's a matter of viewpoint. I live with the same prospect of metal walls as anybody. I eat the same food, hear the same stories, see the same faces.'

'Would it help if you had something more constructive do to? If you wanted, I could fit you in on some of the research.'

His manner of fellowship as a non-specialist was only superficial. He saw the social difference between me and the others exactly the same as any of them.

Back in my office, I pulled one of the reports across and

skimmed through it. Then I found some clean paper, put it in the typewriter and began to rewrite the report into lay English.

I wondered how the present situation with Clare had arisen. A variety of possibilities presented themselves.

We had grown over-familiar with each other in the claustrophobic environment of the observatory;

We were not and never had been 'suited' for one another —I disliked the word, distrusted the concept—and the environment had merely brought things to a head earlier than would have been normal;

It was merely a phase, ending either naturally or when we left the observatory;

I had unwittingly behaved in such a manner as to initiate a vicious circle . . . or Clare had unwittingly done so;

Clare had taken a lover . . . or she suspected me of doing so;

There was some other factor I had not anticipated.

Such were the possibilities. The awkward thing with such a situation is that only those two people involved are aware of the true state of affairs. And through no fault of their own, they are incapable of assessing it objectively or reliably. Much as I could recognise the breach between Clare and myself, I was helpless to do anything about it. While there was no overt love between us, paradoxically there remained a surface level of interaction where we could behave acceptably with one another in company. And on the observatory there was always company.

One of the reports I rewrote was from Mike Querrel, on the current state of the main generators.

As I have said, the generators were not Querrel's main interest, but he had by and large done all the research work in his own particular line that he had intended to do. As our tour of duty on the observatory had been extended indefinitely, he had been left with time to spare and had involved himself with the servicing of the engines.

These were intended to be fully automatic, requiring no attention. It was fortunate, therefore, that Querrel had taken the interest he did as he discovered a fault that might, had it been left unattended, have created a great deal of danger to all of us.

After this, he had received formal authority from mission headquarters on Earth and had been submitting regular reports ever since.

The generators were crucial to the existence of the observatory, for in addition to providing all electrical power—and thus all heat, motor-power, light and life-supports—they also provided the field which produced the elocation effect which kept us alive and operating on this planet.

Elocation had about as much relation to time-travel as a flight of stairs has to space-travel. That should give you some idea of the relative scale. All the elocation-field can do is to push the observatory back in time by about one nanosecond—but that was enough, and more would be equally unnecessary and inconvenient.

One nanosecond of elocated time allows the observatory to move about the surface of this planet in what amounts to complete invisibility to the inhabitants, in a state of recurring non-existence. Practically, it is ideal for the work of ecological surveys, as it allows complete freedom of movement without any pollution of or interference with the external environment. By use of localised field-abrogators it is possible to view chosen pieces of the outside—such as a plant or animal, or a piece of soil or rock—and thus conduct the scientific work of the observatory.

That is the official version, the one the staff know . . . and for the moment that will do.

Querrel's report was not much more than a listing of various readings taken from the equipment. These would be used on Earth to update the real-time simulators, and allow the controllers to keep accurate note of our progress. Most of the automatic readings would be transored back by the computers, but Querrel's figures covered the parts of the equipment which had had manual over-ride.

Bored with thinking about the observatory, bored with being confined inescapably in the observatory, bored through and through *with* the observatory, I left my office and wandered around one or two of the viewing ports.

Here, although I could see what was being observed of the outside, I came into closer contact with the scientists. It is not paranoia which causes me to say that I am not liked. I know it for a fact. I would be liked even less if the true nature of my duties were known.

The problem about Clare was still nagging at me, as it always did. It was not made easier by the awareness—growing by the day—that our protracted stay in the laboratory was futile. Whatever purpose may have been served within the originally intended tour of duty certainly could not justify this extension. Though many of the scientists—including Clare—claimed that their work could not be finished in the forseeable future, I knew that everything on the observatory would be ultimately unavailing.

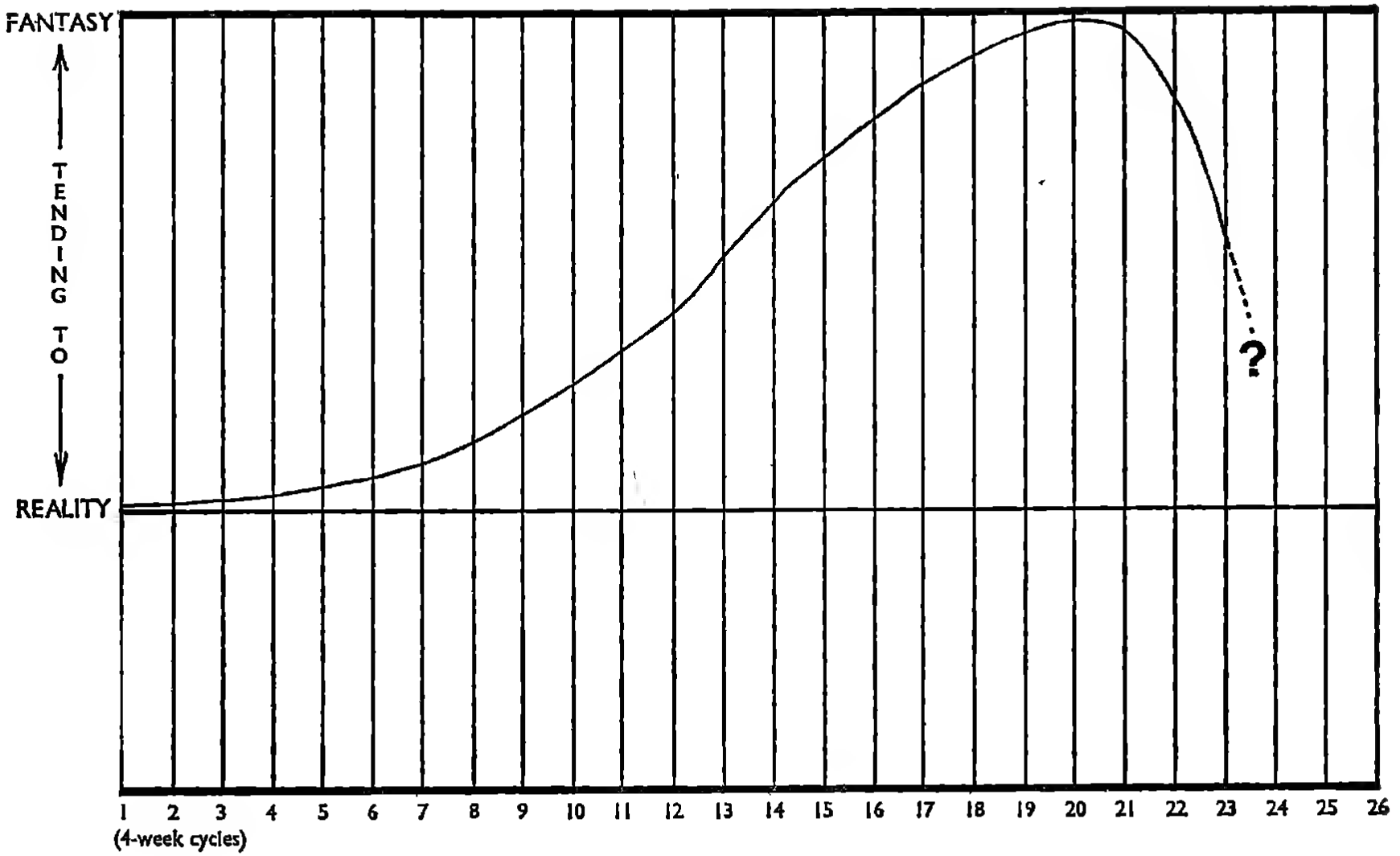
I passed through five of the observation-bays. Conversations stopped, resumed behind me as I passed. I exist in a world of silence: forcing another silence on those around me.

The results of the Tolneuve experiment are known, but the final inferences have yet to be drawn. Through my confusions the simple beauty of what has happened shines through. What is to come is not so clear. I can show you the results (without the conclusions) in the form of a chart.

I like that chart—it is of my own devising. But it is not complete, for things are going wrong.

The REALITY line represents what is true, what is real. It symbolises sanity and reason, what we hope we may ultimately return to. The FANTASY line we have reached and moved away from. That was where the observatory-society passed into an insane state.

The result of the Tolneuve experiment was now apparent: deprive a community of news of the outside world, and the community finds a replacement. In short, it develops


FANTASY
TENDING TO
REALITY
?
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
(4-week cycles)

a network of rumours based on speculation, imagination and wish-fulfilment

This is reflected in my chart.

For the first six months or so, everyone was reacting to the fresh stimulus of the observatory. Their interests were oriented around themselves and their work. Interest in the outside world was at a minimum. What conversations I overheard in that time, or participated in, were based broadly on what was known or remembered.

By the end of the first year—four-week cycle No. 13—the situation had changed.

The environment and society of the observatory were not enough to sustain the imaginations of these highly intelligent people. Curiosity about what was happening back on Earth led to direct conversations about it. Speculation . . . guesses . . . gossip . . . I detected exaggerated stories of past exploits. The system of fact-orientation was being broken down.

In the following months, up until approximately the end of the 20th cycle, this became extreme.

The network of rumours became the main obsession of the staff and by and large their formal work suffered. During this period, the controllers on Earth became alarmed and it was thought for a time that the experiment would have to be curtailed.

The rumours lost any basis in reality, became fantastic, wild, demented. And the staff—cool, logical scientists—believed in them profoundly. It was asserted as fact that black became white, that the impossible became the possible . . . that governments fell, that wars had been fought and won, that cities had burned, that life went on after death . . . that God was alive, God was dead, that continents had sunk. It wasn't the assumptions in themselves that were so incredible as the way in which they were accepted.

During this time, life went on as normal on the observatory and on Earth, and the regular daily sheets were handed out to the staff. And the work proceeded—erratically, but still there was progress.

And then ... Then the fantastic aspects of the rumours diminished. Traces of fact crept back into what was being said. By the end of the 23rd cycle, eight weeks ago, it was clear that the speculation was returning, spontaneously, to reality.

And incredibly, the rumours began to anticipate fact.

Word would go round, stemming unprompted from God knew where, about some clearly-defined event: a natural disaster, a sporting result, the death of a statesman. And when I checked through the 84 file, I would find that it had a collateral in reality.

A rumoured landslide in Greece would be an earth-tremor in Yugoslavia; a rumoured change of government in South-East Asia would correspond with a coup somewhere else; a rumoured policy-change in the attitude of the public towards this very mission would be nearly accurate. And then there were other stories that I could not check. Things like unexpected famines, or increasing crime-rates, or social dissent—events which would not normally get into the news anyway.

With this change, a conclusion came into sight: that in due course the rootless network of rumour would return of its own accord to reality. Reflecting it accurately, anticipating it accurately. If this happened, the social consequences —in the broadest sense—would be unprecedented.

But for some reason this conclusion was not in sight. The network had stagnated. The return to reality had been postponed. My beautiful chart ended in a query.

The transor-conjunction was scheduled for 23.30 hours and I had the whole evening to kill. We followed real-time days for the sake of convenience. Had we adapted to the day-cycles of the planet, the simulators on Earth would have had to be continually modified.

I stayed in my office until 20.00 hours, working on a few more of the reports. I sent out for food and this was brought to me by Caroline Newison, botanist wife of one of the bacteriological team.

She told me the rumour about the Bolivian riot, fleshing it out with the detail that just over a thousand people had died. This was nearer the actual figure and it pleased me. In turn, I passed on the word about the New York fire, but she had already heard this.

It always struck me as curious that individual members of the staff were friendlier to me than they were as a whole. It was consistent, though, with the overall behaviour of the staff: this difference between individual and collective behaviour or attitudes.

Later, I locked my filing-cabinets, closed my desk and went in search of Clare. I had ready all the necessary work for the time of the conjunction.

What I could not understand about the postponement of what I had reasoned would be a return to reality-based conjecture was that most of the other factors in Tolneuve's theory held good.

But the rumouring had not progressed. The staff were still passing word about events of the same kind as they had been doing eight weeks ago. And there was less speculative activity.

Could it be that the lethargy which affected us all was similarly causing a renewed lack of interest in the outside world?

If the flow of my chart had gone as I had extrapolated, by now—the end of the 25th cycle—we would be again aware of what was happening on Earth. The sensation ability to anticipate what could not otherwise be known would be established.

Thorensen was holding forth when I went into the bar. He was slightly drunk.

'. . . and I think we shouldn't. He's the only one who can talk with them. I don't trust it.'

He turned as I walked towards him.

'Will you have a drink, Dan?' he said.

'No, thanks. I'm looking for Clare. Has she been here?'

'She was in a little earlier. We thought she was with you.'

The group of four or five men with Thorensen listened to the exchange without expression.

'I've only just left my office,' I said. 'I haven't seen her since this morning.'

O'Brien, standing next to Thorensen, said: 'I think she was going back to your room. She said she had a headache.'

I thanked him and moved out of the bar. I knew Clare's headaches. She often used some minor physical symptom as a cover for a deeper emotion and though she had been genuinely upset earlier, I didn't think the rumoured death of the children in New Zealand would be still affecting her. The reaction of all members of the staff to the stories they generated, however disastrous or seemingly important, was superficial.

When I reached our room, she was not there. As far as I could recall, the room looked much as it had done when we had left it in the morning. There was no sign that Clare had been back.

I walked around the observatory, growing increasingly puzzled at her absence. There were not all that many places in which she could be, unless she was deliberately avoiding me. I tried all the observation-ports, all the social and communal rooms and even, in the end, the generators. She was there with Mike Querrel, and they were kissing.

The truth of it was that by all accounts the situation on Earth was in a very delicate state. In a political sense the division between the East and the West had widened and in the uncommitted territories in which the different ideologies met there was continuous tension. In a social sense, the environment had exhausted itself. Here it was the developed and under-developed countries which had grown apart.

When we had left Earth two years before, the situation had been very bad and in the intervening period things had worsened. Crop-failures were widespread—soil-exhaustion

and unbalanced atmospheric ecology being the main factors. Consequently, any country not attuned to a high level of technology suffered famine and disease. Large areas of land which had been irrigated and cultivated fell into disuse. There was an increasing blind dependence on technology. In the developed countries, pollution was the main social problem, with inter-racial conflict running a close second. These internal factors aggravated the international political situation; each side blamed the other for its contribution, but neither could afford practical help either for itself or for its economic dependencies. There were too many complexities involved: too many vested interests in uncommitted nations from too many sides. All this was reflected in the news-sheets which came up to the observatory; none of it directly affected the members of the staff and none of it got into their personalised daily sheets. If I scanned through my 84 file, from any one of the two dozen transors we had had since being here, I would see the facts reflected there: strikes, famines, riots, civil uprisings, territorial demands by one state on another, conventions of environmental pundits who could see what was coming but were powerless to do anything about it, disasters in the cities caused by the fine tuning of technology, and fighting in the streets, and murder of security forces, and bomb outrages, and sabotage, and political assassinations, and break-down of diplomatic relationships, and the ending of trade agreements, and the stockpiling of weapons . . . and over it all a growing awareness of and a clamouring for the war which was now inevitable . . .

And no one except me on the observatory had any formal access to this information, and I had felt that their speculations would have developed to it, and they hadn't, and I didn't know why.

Later, when Clare had gone, I stood alone with Querrel by the main generators.

The scene that had just taken place could have happened only on the observatory. Each of us knew the mental and

physical strains being undergone by the others, as each of us was subjected to the same. That Clare had gone to another man did not surprise me ... it was only the shock of discovering it was Querrel. As far as he and Clare were concerned, I assumed that each of them must have known that their *affaire* could not have gone on for long before I discovered it. So there could be no genuine shame there. Nor could they have hoped to continue it if and when we left the observatory.

We had said very little. Clare pulled away from Querrel, I tried to grab her but she evaded me. Querrel turned away and Clare said she was going up to our room.

When she had gone, I lit a cigarette.

'How long has this been going on?' I said, aware of the honour time had lent to the phrase.

'It doesn't matter,' Querrel said.

'It does to me.'

'Long enough. About seven weeks.'

'Are you sure that's all?'

'Seven weeks. You know it was your fault, Winter. Clare really resents what you are doing to her.'

'What do you mean?'

He didn't reply, but sat down on the edge of one of the machine housings. Around us, the generators worked on smoothly.

'Come on,' I said. 'What did you mean?'

He shrugged. 'Clare will tell you. I can't.'

I said: 'Who started it? You or Clare?'

'She did. Though it comes back to you. She said it was a reaction against you.'

'And you didn't mind being used like that.'

He didn't reply. I wasn't so blind as to be unaware that when a marriage is betrayed both parties are equally to blame. Though what Querrel meant by Clare's resentment was lost on me. I had not to my knowledge done anything that would cause this reaction. Just then, Clare came back into the generator room with Andrew Jenson, the chief ecologist on board the observatory.

He nodded briefly at Querrel, then looked at me. 'Has Querrel told you?'

'Told me what?'

Querrel said: 'No I haven't. This hasn't exactly been a convenient moment.'

In spite of my involvement, I registered the understatement. I said to Jenson: 'Did you know about this?'

'I think we must be talking about something else.'

I had wondered what connection Jenson had with the *affaire* between Querrel and my wife.

Querrel got up from his perch on the edge of the housing, and went towards the door. 'Excuse me for copping out of this,' he said. 'I've had enough for one day.'

I stared after him as he left us.

It will have been noticed that during my descriptions of the work on the observatory there had been a certain amount of circumspectness as regards detail. There are reasons for this.

It could be said, for instance, that in an environment where one's whole existence is centred around some activity such as scientific study of an alien planet, then one's behaviour should be very much coloured by what is going on. I have remained in this account remarkably free of the excitement of the staff over the various discoveries of minerals, bacteria and various higher life-forms.

The main reason for my reluctance to go into detail is that there is a disparity between the activities of the staff and what I know to be their true function here.

This is a necessarily cryptic state of affairs; not altogether without analogy to Tolneuve's theories.

But consider: the year is 2019, the planet we are supposed to be exploring cannot logically be within our solar system, mankind has not developed his technology to a point which would enable him to reach such a planet. A vacuum surrounds our observatory—unarguably there, as the air-leaks from our cabins continually testify—and yet outside there

appears to be life. None of the staff has ever queried these things.

Jenson went to the intercom and spoke for a few minutes to one or two other people. Taking advantage of the fact that we were alone, Clare and I exchanged a few words. At first she was sullen and unforthcoming. Then she let go, and spoke to me freely.

She said that for several weeks she had been bored and depressed, anxious about me. That she had been unable to communicate with me. That I would not respond. She had suspected, for a time, that I had taken up with another woman, but discreet investigations had ruled this out to her own satisfaction. She said that she had been forced by the attitude of other scientists to separate herself from me in certain respects and that her personal attitude to me had changed in a parallel way. I asked her what she meant by this and she said that that was what Jenson was here for. She said that she and Querrel had started their *affaire* more or less as a consequence of this and that had I not acted in such a secretive way it would have never happened.

'So you mean you think I'm holding something back?' I said.

'Yes.'

'But I'm not. At least, not as far as you and I are concerned.'

She turned away. 'I don't believe you.'

Jenson put down the intercom handset for the last time and came back to us. His face bore an expression, the like of which I had rarely seen on the observatory. One commonly sees a kind of blankness in the faces, but Jenson's showed purpose, intent.

'You've got one of your transor-conjunctions tonight, haven't you?'

'At eleven thirty, real-time.'

'OK. As soon as that's finished, we're leaving the observatory. Are you coming with us?'

I gaped at him. What he had just said amounted almost

to treason against his own identity. It was impossible for him, or any other members of the staff, to conceive independently of the notion of leaving the observatory. Every member of the staff had been fully conditioned *against* such a concept.

Clare said: 'This is what I meant. We've been planning to get out for several weeks. The others told me not to talk to you about it.'

'But that's impossible.'

'To get out?' Jenson smiled at me as if I were to be patronised. 'We intend to use the abort mode. Nothing could be simpler.'

Whatever may or may not be outside the observatory—whether you accept the official rationale of the observatory or, like me, you are aware of the true state of affairs—there is certainly a great deal of hard vacuum. Either the vacuum of elocated space, or the other and more common kind. No human being could hope to exist outside without full portable life-supports. Jenson knew this; everyone knew it.

'You're insane,' I said. 'You're incapable of assessing the true state of affairs.' I meant this emotionally and literally. He was acting in a deranged way and by definition, by the way he and all the others behaved in the sense of group response, he was insane. 'You don't know what's outside.'

Clare said: 'We do, Dan. We've known for some time.'

'The planet's uninhabitable,' I said. 'The life-forms you've been observing are incompatible with the hydrocarbon cycle. Even if you could get through the elocation field, you'd never survive.'

I was sticking to the official line. Jenson and Clare glanced at each other. Even as I spoke, I realised that none of this was their intention.

This is relevant:

The moon orbits the Earth at a distance of roughly a quarter-million miles. As it completes one orbit, so its own period of revolution ends. Result—we see only one face.

However, the orbital path of the moon is elliptical and thus its speed in orbit varies depending on its distance from Earth. Result—an observer on Earth sees the face of the moon moving very slightly from side to side as if it were shaking its head. It is therefore possible to see fractionally more of the moon's surface than that on the side facing Earth. This movement is known as libration. On the north-east edge of the moon's near side, as viewed from the Earth, is a crater named Joliot-Curie. For just over 28 days of every lunar month the crater is invisible from Earth. But for a few hours every month an observer inside the crater would see the Earth creep into sight over the horizon.

On the floor of the crater, operating in a narrow strip of land from which the Earth can be seen at this time, is the observatory.

I glanced at my wrist-watch. I said: 'What has the next transor-conjunction to do with this?'

'Some of the others want to have a look at the whole communication as it arrives. This is a genuine transor, isn't it?'

'As opposed to . . .?'

'Those times when you close your office to get up to God only knows what. We know that there's only one transor every four weeks, Winter. And that the observatory is run from Earth on a real-time basis of four-weekly cycles.'

'How do you know that?'

'We're not entirely subject to the controllers' whims,' said Clare. 'We have some access to what's going on.'

'I wouldn't be too sure of that,' I said. It had been comforting to be the only person on the observatory with the knowledge of what was really going on. Now it looked as if the others had somehow found out.

'Look, Winter,' said Jenson. 'Will you accept that we *do* know what the real situation is? You don't run the observatory, you know.'

'But I do have control of information,' I said.

Jenson gestured impatiently. 'You had,' he corrected. 'It's

been common knowledge for some time that the mission's purpose has had to be changed. We know about the troubles on Earth.'

I thought about that for a moment.

'Why do you want to get out of the observatory just at this moment?'

Jenson shrugged. 'This is the time,' he said. 'We're tired of being cooped up in here. Now we know exactly what's going on, we especially resent being here for no good reason. Some of us have members of our families on Earth ... with the trouble brewing up, not unnaturally we want to be with them. Also, there is a strong current of feeling that if a war does break out on Earth, we may well be stranded inside here. It's apparent that the experiment as it was has come to an end.'

Clare had moved across to me. Now she laid a hand on my arm. The touch of her felt vaguely alien, yet also reassuring.

'We must get out of here, Dan,' she said. 'For both of us.'

I tried to give her a cold look; the memory of what I had found her doing with Querrel still a disconcerting thought in the back of my mind.

'You say you know what's happening. I don't believe you do.'

Jenson said: 'It isn't just me. Everyone on board knows. There's no point in arguing about it.'

'I'm not arguing.'

'OK. But for God's sake let's forget the official line about surveying an alien planet.'

By the manner in which Jenson was talking, I knew that he wasn't trying to extract information from me ... though at another time this might have been an acceptable motive within the terms of the experiment. Rather, it was as if we were both living with a falsehood, both knew it and both should abandon it.

I said: 'All right. We're not on an alien planet. What do you think the observatory is?'

'We don't think,' said Clare. 'We know.'

Jenson nodded to her. 'We know that what we are expected to believe is a series of implanted reactions to pre-programmed stimuli. That the scientific reports we give to you to relay to Earth are in fact viewed in the sense of how well we have reacted rather than what our reaction has actually been. We also know that a large number of our assumptions about the observatory are artificial and were conditioned into us before we came here.'

I said: 'I'll concede you that so far.'

'What we don't know, on the other hand, is the exact purpose of the experiment, though there have been several speculations that we are a kind of control-group. In the same way that we have been told that this mission is simulated on Earth by computers, so we are ourselves a kind of simulation for some other expedition ... perhaps one even on another planet. Or an expedition which is intended to go to another planet.'

I had no idea how they had reached this knowledge, but what Jenson was saying was almost exactly so.

'There is also some other kind of experiment going on, but of this we have no knowledge at all. We think, though, that it is connected with you, and accounts for your presence here.'

I said: 'How have you found this out?'

'By common deduction.'

'There's just one more thing,' I said. 'You are proposing to leave the observatory. Do you *know* what's outside?'

Clare glanced up at Jenson, and he laughed.

'Office-blocks, motels, smog, grass ... I don't know, anything you like.'

'If you try to get outside the observatory you'll die,' I said. 'There's literally nothing outside. No air ... certainly no grass or smog.'

'What do you mean?'

'We're on the moon,' I said. 'Earth's moon. You've been right in everything you've said so far ... but you're wrong about this. The observatory is on the moon.'

They exchanged glances again. 'I don't believe it,' Clare said. 'We've never left Earth. Everyone knows that.'

'I can prove it,' I said.

I turned to an equipment bay behind me and took a steel lever from its rack. I held it in my hand before them, then let go. It floated gently to the floor . . . one-sixth gee, lunar gravity.

'What does that prove?' Jenson said. 'You've dropped a lever. So what?'

'So we're in the lunar field of gravity.'

Jenson picked up the lever, dropped it again. 'Does this look to you as if it's falling slowly?' he said.

I nodded.

'What about you, Clare?'

She said with a slight frown? 'It looks perfectly normal to me.'

I put my hands on Jenson's shoulders, pushed backwards. He moved away lightly, recovered easily.

'On Earth,' I said, 'you would have fallen heavily.'

'On the moon,' Jenson replied, 'you couldn't have pushed so hard.'

We picked up the lever and dropped it again and again to the floor. Each time it fell smoothly and gently to the floor, bouncing two or three times with light ringing noises. And yet they maintained that it fell as if under normal gravity.

Who, I began to wonder, was imagining what?

Before the escalation of the troubles on Earth, an expedition had been planned. I don't know where it was intended to go, nor how it was supposed it would be transported there. The members of the expedition would live and work in a mobile laboratory, carrying out various facets of ecological research.

The Joliot-Curie observatory was a practice run—deliberately placed in a relatively inaccessible area of the moon, deliberately rigged to mislead the occupants into believing they were working in the field.

So conditioned were they that no one until this moment

had ever questioned the mission, or speculated as to its purpose. What they saw of the unnamed planet was pre-recorded films, prepared slides, pre-taped responses on the EEGs. What was observed at the observatory was the observer.

We moved along the main corridor to my office. At Jenson's request, several of the others had joined us. I noticed Thorensen was among them, but not Querrel. We walked with the habitual slow grace of the observatory . . . light, bounding steps to get the most out of the lunar gravity.

But the distracting thought persisted: if no one else but I could detect the effects of the low gravity, how did their bodies' metabolism compensate? It was a new development to me and one that should have occurred before. I knew that they had been conditioned to ignore the low gravity, to react to it as if it were normal, but I had not seen before that if one's mind and one's body are oriented around differing physical phenomena, then at the very lowest level of reaction there would be inefficient synchronisation of movement and at the highest level there would be ultimate mental breakdown.

We arrived at the office about six minutes before the transor-conjunction was due to commence.

The conjunction begins as the edge of the Earth rises slowly over the south-western horizon. It takes a few minutes for a direct line-of-sight tight-beam to be locked on. As soon as this has been accomplished, the stored data in our computers is fed back to Earth. This takes around twenty seconds. Immediately after, the controllers on Earth send up the various messages and information direct into our computer. This can take anything between five minutes and three hours.

I said nothing about the files in my cabinets and showed the staff the equipment for the transor, and how it may be monitored. Very few of them showed interest.

At 23.32 hours, the conjunction began. A series of red pilot-lights along the console showed that we had locked on

to the automatic tracking equipment on Earth. Exactly where the equipment was situated I never knew, as it depended on the configuration of the Earth and the moon at the time of the conjunction. There were twelve stations situated at various parts of the globe.

I switched in the data transmitter and we waited while this was sent to Earth. There was an uncomfortable silence in the office; neither from concentration nor anticipation, but more a kind of patient waiting.

When the console showed that our transmission was concluded, I switched in the acquisition circuit. And we waited.

Ten minutes later, we were still waiting. The circuit was dead.

Jenson said: 'I think that confirms it.'

'It didn't need to be confirmed,' said one of the others.

I looked at Thorensen, then Clare. Their faces showed no surprise, still that expression of patience.

'The experiment's over,' Jenson said. 'We can go home.'

'What do you mean?' I said.

'You know about the war on Earth? It's been threatening for months. Now it has started.'

'Ten days ago,' Thorensen said. 'Or at least, that was what we heard.'

I said: 'But there's been no news of it.'

Jenson shrugged. 'You won't be getting any more from that,' he said, nodding towards the console. 'You might as well turn the bloody thing off.'

'How did you know about the war?' I said.

'We've known for some time. In fact, we anticipated it by several days.'

'Why didn't anyone say anything?'

Thorensen said bluntly: 'They did . . . but not to you.'

Clare came over and stood by my side. 'We had to be careful, Dan. We knew you were holding back information from us, and we didn't know what would happen if we told you we knew.'

I said: 'Thanks, Clare.'

On one of the sides of the observatory is a tunnel large enough to accommodate at one time the entire staff. It is the abort mode. It has been designed to stay provisioned and airtight long enough to keep everyone alive in the event of an emergency until help can be sent from Earth.

It is also the only access point to the inside of the observatory, and had the experiment ended at the originally-designated time, we would have passed down the tunnel on our way to the relief modules.

We periodically pressurised and checked out the abort tunnel and everyone on the observatory knew how to operate it.

Jenson said: 'We're getting out.'

'You can't.'

The others looked round at each other. Two of the men moved towards the door.

'We have a choice,' Jenson said. 'We can die in here, or we can get outside. What the conditions are like out there, we don't know. Probably there is a high level of radio-activity. But we do know that the observatory is somewhere on Earth. Last night we took a vote on it and it was unanimously agreed that we're not staying here.'

'What about you, Clare?'

She said: 'I'm going too.'

I sat at my desk, staring at the 84 file. Everything was in here. All the pieces that made up a picture of the world committing suicide. I had had those pieces, but the staff hadn't. And yet the absence of that information had somehow generated an awareness of its existence and they had known what was happening. But I hadn't.

I thought again of my chart which, had it finished, would have returned to the line of reality about now. I could see what had gone wrong with the chart—that the staff had deliberately excluded me from the more important of their rumours. That as their stories drew nearer and nearer to what was real, they had said nothing to me.

So they had built reality from speculation in exactly the

way I had theorised, yet had hardly dared to believe.

Jenson came back to my office about an hour later.

'Are you going to come, Winter?' he said.

I shook my head. 'You don't know what you are doing. You're going to step out of that tunnel into the moon's vacuum. You'll die instantly.'

'You're wrong,' he said. 'About this and other things. You say we've been conditioned—well we'll accept that. But what about you? How can you tell that everything you think about the observatory is accurate?'

'But I *know*,' I said.

'And a madman knows he is the only one sane.'

'If you like.'

Jenson extended his hand to shake mine. 'Well, see you outside, then.'

'I'm not going to go.'

'Perhaps not now, but later maybe.'

I shook my head again, emphatically. 'Is Clare going with you?'

'Yes.'

'Will you ask her to come in here for a moment?'

He said: 'She's already in the tunnel. She said it would not be a good thing to see you at the moment.'

I shook his hand, and he left the office.

A few minutes ago I went down to the abort tunnel.

The outer door was open and the tunnel was empty. I closed the door with the remote-control wheel and repressurised the tunnel.

I have been right through the observatory and I have confirmed that I am alone. It is very quiet in here. I sit at my desk, holding a part of my 84 file. Every now and again I hold it out from the desk and watch it fall slowly to the floor. Its movement is gentle and very graceful. I could watch it for hours.

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